

ZW180-7

technical data

HITACHI

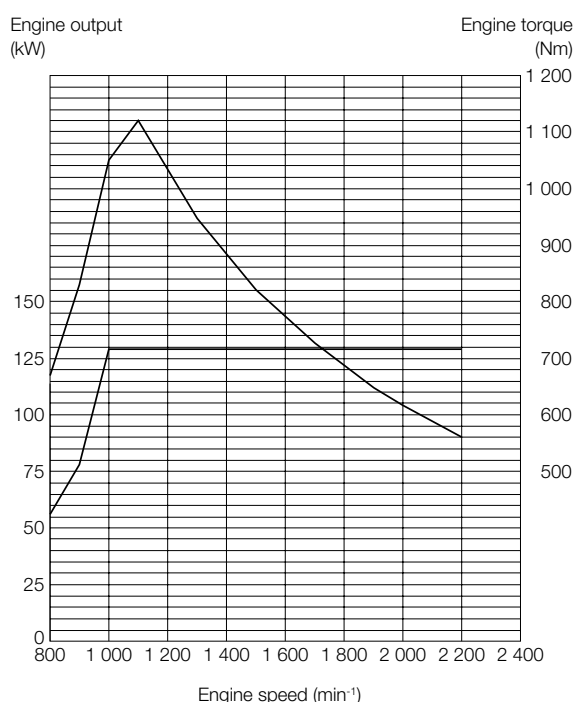
Reliable solutions

Preliminary specifications – subject to change

ENGINE

Model	CUMMINS B6.7
Type	4-cycle water-cooled, direct injection
Aspiration	Turbocharger and intercooled
Aftertreatment	DPF and SCR system
No. of cylinders	6
Maximum power	
ECE R120, gross	129 kW (173 hp) at 2 200 min ⁻¹ (rpm)
ISO 9249: 2007, net	125 kW (168 hp) at 2 200 min ⁻¹ (rpm)
Rated power	
ISO 14396: 2002	129 kW (173 hp) at 2 200 min ⁻¹ (rpm)
ISO 9249: 2007, net	125 kW (168 hp) at 2 200 min ⁻¹ (rpm)

Bore and stroke	107 mm X 124 mm
Piston displacement	6.69 L
Batteries	2 x 12 V
Air cleaner	Two 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 elements, single stage, single phase
Main clutch	Wet hydraulic, multi-disc type
Cooling method	Forced circulation type
Travel speed* Forward / Reverse	
1st	5.9 / 6.2 km/h (6.3 / 6.6 km/h)
2nd	11.5 / 12.1 km/h (12.2 / 12.9 km/h)
3rd	17.5 / 26.5 km/h (18.5 / 28.3 km/h)
4th	25.3 km/h (27 km/h)
5th	39 km/h (39 km/h)
*With 20.5 R25 (L3) tires	
(): Data at Power 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	Two stage reduction with torque proportional differential
Oscillation angle	Total 20° (+10°, -10°)
Final drives	Heavy-duty planetary, mounted inboard

TIRES

Tire size	20.5R25 (L3)
Optional	Refer to standard & optional equipment list

BRAKES

Service brakes	Inboard mounted fully hydraulic 4 wheel wet disc brakes. Front & rear independent brake circuit
Parking brakes	Spring applied, hydraulically released, dry disc type with external output shaft

STEERING SYSTEM

Type	Articulated frame steering
Steering angle	Each direction 40° ; total 80°
Cylinders	Double-acting piston type
No. x Bore x Stroke	2 x 70 mm x 442 mm

HYDRAULIC SYSTEM

Arm and bucket are controlled by multifunction 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 (Serve as steering pump)	Variable Displacement Axial Plunger Pump
Maximum flow	224 L/min at 2 200 min ⁻¹ (rpm)
Maximum pressure ..	27.4 MPa
Fan pump	Fixed Displacement Gear Pump
Maximum flow	54.8 L/min at 2 200 min ⁻¹ (rpm)
Maximum pressure ..	18.2 MPa
Hydraulic cylinders	
Type	Double acting type
No. x Bore x Stroke ...	Arm : 2 x 125 mm x 765 mm
	Bucket : 1 x 150 mm x 495 mm
Filters	Full-flow 15 micron return filter in reservoir
Hydraulic cycle times	
Lift arm raise	5.3 s
Lift arm lower	3.7 s
Bucket dump	1.1 s
Total	10.1 s

*Data at Power Mode

ENVIROMENT

Engine Emissions

EU Stage V

Sound level

External sound level according To ISO 6395: 2008 105 LwA dB(A)

Sound level in cabin according to ISO 6396: 2008..... 68 LpA dB(A)

Air Conditioning System

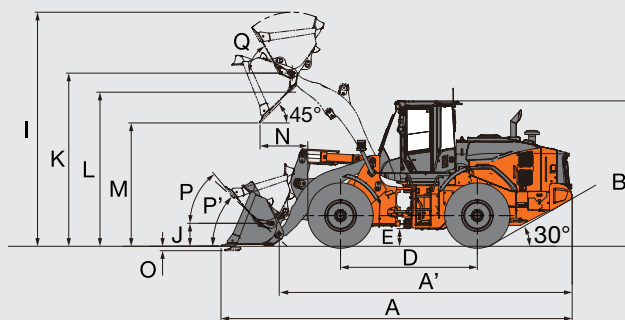
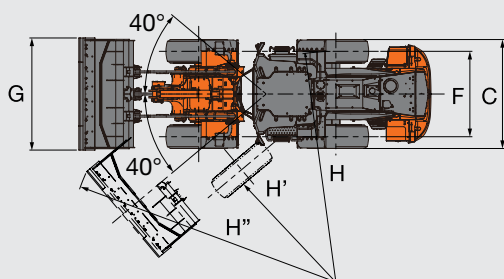
The air conditioning system contains fluorinated greenhouse gases.

Refrigerant type: HFC-134a, GWP: 1430, Amount: 0.75±0.05kg, CO2e: 1.07±0.07ton.

SERVICE REFILL CAPACITIES

Fuel tank	230 L
Engine coolant	25 L
Engine oil	25 L
Torque convertor & transmission	30 L
Front axle differential & wheel hubs	31 L
Rear axle differential & wheel hubs	34 L
Hydraulic oil tank	100 L
DEF/AdBlue® tank	25 L

DIMENSIONS & SPECIFICATIONS



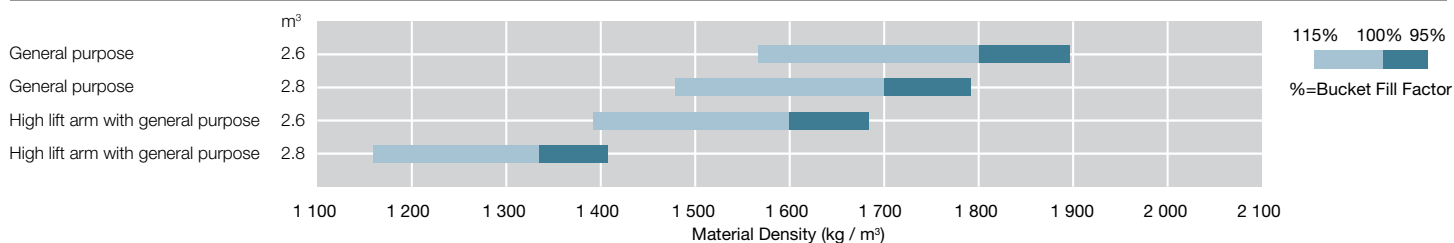
Bucket type		Standard arm					High-lift arm	
		General purpose				High volume	General purpose	
		Weld-on teeth	Bolt-on cutting edge	Weld-on teeth	Bolt-on cutting edge	Bolt-on cutting edge	Bolt-on cutting edge	
Bucket capacity	ISO 7546: 1983 Heaped m³	2.6	2.6	2.8	2.8	5.2	2.6	2.8
	ISO 7546: 1983 Struck m³	2.2	2.2	2.4	2.4	4.4	2.2	2.4
A Overall length		mm 8 085	7 975	8 135	8 025	8 430	8 470	8 520
A' Overall length (Without Bucket)		mm 6 725	6 725	6 725	6 725	6 725	7 225	7 225
B Overall height	up to cab top	mm 3 310	3 310	3 310	3 310	3 310	3 310	3 310
C Width over tires	outside tire	mm 2 505	2 505	2 505	2 505	2 505	2 505	2 505
D Wheel base		mm 3 100	3 100	3 100	3 100	3 100	3 100	3 100
E Ground clearance	Minimum	mm 400	400	400	400	400	400	400
F Tread		mm 1 930	1 930	1 930	1 930	1 930	1 930	1 930
G Bucket width		mm 2 535	2 535	2 535	2 535	2 950	2 535	2 535
H Turning radius (Centerline of outside tire)		mm 5 235	5 235	5 235	5 235	5 235	5 235	5 235
H' Turning radius to inside of tires		mm 2 995	2 995	2 995	2 995	2 995	2 995	2 995
H'' Loader clearance radius, bucket in carry position		mm 6 145	6 115	6 160	6 130	6 420	6 330	6 345
I Overall operating height	bucket full raise	mm 5 280	5 280	5 345	5 345	5 840	5 685	5 750
J Carry height of bucket pin	at carry position	mm 400	400	400	400	400	400	400
K Height to bucket hinge pin, fully raised		mm 3 925	3 925	3 925	3 925	3 925	4 335	4 335
L Lift arm clearance at max. lift		mm 3 670	3 645	3 670	3 645	3 650	4 055	4 055
M Dumping clearance 45 deg, full height		mm 2 710	2 785	2 675	2 750	2 465	3 190	3 155
N Reach 45 deg dump, full height		mm 1 205	1 095	1 240	1 130	1 415	1 245	1 280
O Digging depth (Horizontal digging angle)		mm 70	95	70	95	95	170	170
P Max. roll back at carry position		deg 47	47	47	47	47	47	47
P' Max. roll back at ground level		deg 43	44	43	44	44	45	45
Q Roll back angle at full height		deg 60	60	60	60	60	53	53
Static tipping load ISO 14397-1: 2007(Section 1-5) *	Straight	kg 12 570	12 440	12 570	12 450	12 040	9 790	9 780
	Full turn	kg 10 880	10 750	10 870	10 750	10 330	8 410	8 400
Breakout force		kN 128	117	122	112	81	107	103
		kgf 13 010	11 920	12 430	11 410	8 300	10 940	10 470
Operating weight * (With ROPS / FOPS Cab)		kg 14 950	15 040	14 960	15 080	15 470	15 240	15 270

Note
: Static tipping load and operating weight marked with include 20.5R25 (L3) tires (No ballast) with lubricants, full fuel tank 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	Full turn			
Tire	20.5R25(L3) XHA2	±0	±0	±0	±0	±0	±0
	20.5R25(L5) XLDD2A	+460	+370	+320	+15	+25	-20
	20.5R25(L5) XMINED2 PRO	+620	+490	+430	+10	+35	-30
	20.5R25(L2) XSNOPLUS	+70	+70	+60	+5	-10	+5
	20.5R25(L3) VJT	+10	+30	+30	-5	-5	±0
	20.5R25(L3) TL-3A+	+150	+140	+120	+10	-5	±0
Belly guard		+165	+120	+110	±0	±0	±0

BUCKET SELECTION GUIDE



● Standard equipment

○ Optional equipment

ENGINE	
Aftertreatment device	●
Air filter double elements	●
Air intake	
Pre-cleaner (Sy-Klone type)	●
Pre-cleaner (Turbo II)	○
Anti-clogging radiator (Wide fin pitch)	●
Automatic reversible cooling fan with heat sensing	●
Cartridge-type engine oil filter	●
Cartridge-type fuel main filter	●
Cartridge-type fuel pre-filter (with water separator function)	●
Coolant reserver sight gauge	●
DEF/AdBlue® tank	●
DEF/AdBlue® tank with magnet adapter	●
Engine auto shut-down control system	●
Engine oil remote drain	●
Fan guard	●

BRAKE SYSTEM	
Front & rear independent brake circuit	●
Inboard mounted fully hydraulic 4 wheel wet disc	●
Spring applied/Hydraulic-released parking brake	●

HYDRAULIC SYSTEM	
Bucket auto leveler (Automatic return to dig control)	●
Control lever lock switch	●
Dual lift arm auto leveler and kickout system	●
Electric control lever	
for 3 spools control valve	
MF lever & Proportional switch for 3rd function	●
2 levers & AUX lever for 3rd function - Inside layout pattern (3rd - bucket - liftarm)	○
for 4 spools control valve	
MF lever & 2 Proportional switch for 3rd & 4th function	○
2 levers & AUX lever for 3rd function & Proportional switch for 4th function - Inside layout pattern (4th - 3rd - bucket - liftarm)	○
Hydraulic filters	●
Lift arm float system	●
Reservoir sight gauge	●
Ride control system (OFF-AUTO type)	●
Quick coupler piping and switch	○
Work mode selector	●

CAB	
Adjustable steering column with POP-UP	●
Auto control air conditioner	
with double intake filters	●
Pre-cleaner for air conditioner	○
Bluetooth® integrated DAB+radio, hands-free calling	●
Camera & monitor	
Rear view camera & monitor	●
Aerial Angle® (Side and rear view camera)	○
Coat hook	●
Evacuation hammer	●
Front/Rear defroster	●
Glove compartment	●
LED room light	●
Payload checker with tip-off function	●
Rear obstacle detection system	○
Rear view mirrors	
Inside (1)	●
Outside (Heated, 2) electrical adjustment with proximity	●
Retractable seat belt, 50 mm	●
ROPS (ISO 3471:2008), FOPS (ISO 3449:2008 LEVEL II): multi-plane isolation mounted for noise, vibration reduction	●
Rubber floor mat	●
Seat	
Heavy Duty air suspension seat equipped with horizontal suspension , headrest and heater: fabric, high back, adjustable for damper, inclination of the seat, seat depth, weight-height, fore-aft position, reclining angle, armrest angle, headrest height and angle, lumbar support	●
Seat belt reminder	●
Steering system	
Wheel steering	●
Storage	
Cup holder	●
Document holder	●
Hot & cool box	●
Seatback pocket	●
Smartphone and Tablet device holder	●
Sun shade film on front windshield	○
Sunscreen roller type	●
Textured steering wheel with spinner knob	●
Tinted safety glass	
Front windshield: laminated	●
Others: tempered	●
USB power supply	●
Windshield washer front and rear	●
Windshield wipers front and rear	●
8 inch sub monitor	●
2 speakers	●

MONITORING SYSTEM

Gauge: coolant temperature, fuel level, transmission oil temperature	●
Indicator lights : clearance lights, control lever lock, fuel level, high beam, parking brake, preheat, turn signals, work lights, fan reverse indicator, seat belt indicator	●
Indicator on multifunction monitor: F-N-R shift position, gear shift position, clock, DEF alarm indicator, DEF level gauge, ECO indicator, forward/reverse selector switch indicator, hold display, hour meter, odometer, battery volt, speedometer, tachometer, transmission auto-shifting indicator, Warning lights: air filter restriction, brake oil low pressure, communication system error, discharge warning, engine oil low pressure, engine warning, hydraulic oil level, low steering oil pressure, overheat, transmission warning	●
Indicator on sub monitor : payload checker, dual auto-leveler indicator rear obstacle detection and warning system (optional)	●
38 languages selection	●

ELECTRICAL SYSTEM

Alternator (95A)	●
Backup alarm	●
Battery disconnect switch	●
Large capacity batteries	●
Power outlet 12 V and 24 V	●

LIGHTS

Clearance lights	●
LED brake & tail lights	●
LED headlights	●
Rotating lamp	○
Turn signals with hazard switch	●
Work lights	
2 front on cab & 2 rear LED working lights	●
2 front on cab & 2 rear LED working lights (High brightness)	○
4 front, 2 rear on cab & 2 rear LED working lights	○
4 front, 2 rear on cab & 2 rear LED working lights (High brightness)	○

POWER TRAIN

Aftertreatment manual regeneration inhibit switch	●
Aftertreatment manual regeneration switch	●
Approach speed control	●
Automatic transmission with load sensing system	●
Clutch cut position switch	●
Differential	
LSD (Limited Slip Differential, front and rear)	○
TPD (Torque Proportioning Differential, front and rear)	●
Driving speed limiter (20 km/h)	○
DSS (Down Shift Switch)	●
Forward/Reverse lever	●
Forward/Reverse selector switch	●
Maximum gear limited switch	●
Power mode switch	●
Quick power switch	●
Travel mode selector (Auto1-Auto2)	●

TIRES

20.5R25 (L3) XHA2	●
20.5R25 (L5) XLDD2A	○
20.5R25 (L5) XMINED2 PRO	○
20.5R25 (L2) XSNOPLUS	○
20.5R25 (L3) VJT	○
20.5R25 (L3) TL-3A+	○

MISCELLANEOUS

Articulation lock bar	●
Auto lubrication system	○
Belly guard (Bolt on type) (front / rear)	○
Bucket cylinder guard	○
Cab top rail	
Front rail on the cab top	●
Rear rail on the cab top	●
Counterweight, built-in	●
Cutting edge protection	○
Drawbar with locking pin	●
Emergency steering	●
Fenders	
for 20.5 R25 (Front & full covered rear fenders with mud flaps)	●
Global e-Service	●
Lift arm	
Standard lift arm	●
High lift arm	○
Parallel lift arm	○
Lift & tie down hooks	●
On board information controller	●
Pilfer proof	
Battery cover with locking bracket	●
Lockable engine cover	●
Lockable fuel refilling cap	●
Quick coupler	○
Radiator dust protection screen	○
Rear licence plate bracket	○
Road homologation	
German road homologation kit: rear license plate bracket, reflective sticker, wheel blocks	○
Italian road homologation kit: cab lights, bucket cutting edge protection, link stopper, rear license plate bracket, reflective sticker, rotating lamp	○
Spanish road homologation kit; rear license plate bracket, rotating lamp	○
Standard tool kit	●
Tool box	●
Wheel blocks	●