

# SPECIFICATIONS

# HL960

ENGINE	
Maker / Model	CUMMINS / QSB6.7
Type	Watercooled, 4-cycle, turbocharged charge aircooled, direct injection, electronic controlled diesel engine.
Gross power	168 kW (225 HP) / 2,200 rpm
Net power	166 kW (222 HP) / 2,200 rpm
Maximum torque	106 kg.m (770 lb.ft) / 1,500 rpm
No. of cylinders	6
Bore x Stroke	107 mm (4.21") x 124 mm (4.88")
Displacement	6.7 l (408 cu in)
Compression ratio	17.3 : 1
Air cleaner	Dry, two stage dual elements
Alternator	Denso (24V, 95 A)
Battery	2 x 12 V, 900 CCA
Starting motor	Denso PA90 (24 V, 7.8 kW)

TRANSMISSION	
Torque converter type	3-elements, single-stage single-phase
Tire	23.5 R25, L3

\* Full automatic power shift, countershaft type with soft-shift in range and direction. Properly matched torque converter to engine and transmission for excellent working ability.

Travel speed, km/h (mph)		4 speed T/M	5 speed T/M with lock up clutch
Forward	1st	6.4 (4.0)	6.7 (4.2)
	2nd	12.1 (7.5)	11.8 (7.3)
	3rd	24.3 (15.1)	18.1 (11.2)
	4th	39.5 (24.5)	28.2 (17.5)
	5th	-	40.0 (24.9)
Reverse	1st	6.7 (4.2)	7.1 (4.4)
	2nd	12.7 (7.9)	12.4 (7.7)
	3rd	25.6 (15.9)	29.4 (18.5)

AXLES	
Drive system	Four-wheel drive system
Mount	Rigid front axle and oscillating rear axle
Rear axle oscillation	Oscillation $\pm 11^\circ$ of center pin-loaded
Hub reduction	Planetary reduction at wheel end
Differential	Conventional
Reduction ratio	24.666

OVERVIEW			
Description	UNIT	HL960	HL960 XT
Operating weight	kg (lb)	18,800 (41,450)	19,600 (43,211)
Bucket capacity	Heaped	m <sup>3</sup> (yd <sup>3</sup> )	3.3 (4.0)
	Struck	m <sup>3</sup> (yd <sup>3</sup> )	2.9 (3.8)
Breakout force-bucket	kg (lb)	16,670 (35,160)	16,430 (34,500)
Tipping load	Straight	kg (lb)	14,100 (31,085)
	Full turn	kg (lb)	12,350 (27,227)
			12,700 (27,998)
			10,900 (24,030)

TIRES	
Type	Tubeless, loader design tires
Standard	23.5 R25, ★, L3
Options include	23.5 - 25, 20 PR, L3 23.5 - 25, 20 PR, L5 23.5, R25 XHA2 20.5 - 25, 16PR, L3

HYDRAULIC SYSTEM	
Type	Load sensing hydraulic system
Pump	Variable displacement piston pump, 246 lpm
Control valve	2 Spool (Bucket, Boom) 3 Spool (Bucket, Boom, Aux)
System pressure	280 kgf/cm <sup>2</sup>
Lift Circuit	The valve has four functions; Raise / Hold / Lower / Float Can adjust automatic kickout from horizontal to full lift.
Tilt Circuit	The valve has three functions; Tilt back / Hold / Dump Can adjust automatic bucket positioner to desired load angle.
Cylinder	Type : Double acting No. of cylinders-bore x stroke; Lift: 2-140 mm (5.5") x 765 mm (30.1") Tilt: 1-160 mm (6.3") x 530 mm (20.9") Tilt: 1-180 mm (7.1") x 515 mm (20.3")
Cycle Time	Raise: 5.9 sec Dump: 1.3 sec Lower: 3.1 sec Total: 10.3 sec

BRAKES	
Service Brakes	Hydraulically actuated, wet disc brakes actuate all 4 wheels independent axle-by-axle system. Self adjusting & wheel speed brake.
Parking Brake	Spring applied, hydraulic released brake
Emergency Brake	When brake oil pressure drops, indicator light alerts operator and parking brake automatically applies.

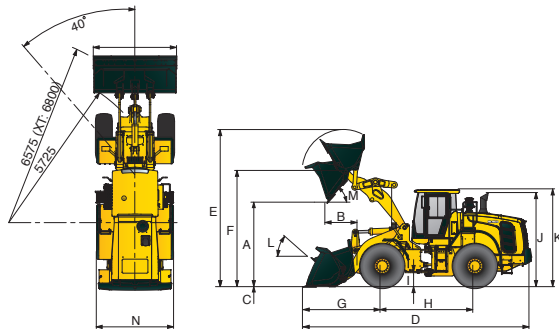
STEERING SYSTEM	
Type	Load sensing hydrostatic articulated steering
Pump	Variable displacement pump, 120 lpm
Relief Valve Setting	250 kgf/cm <sup>2</sup>
Cylinder	Double acting 2 - 75 mm (2.9") x 424 mm (16.7")
Steering Angle	40° to both right and left angle, respectively

Features:  
Center-point frame articulation. Tilt and telescopic steering column.

SERVICE REFILL CAPACITIES	
Fuel tank	300 liters (79.3 US gal)
DEF tank	27 liters (7.1 US gal)
Cooling system	42 liters (11.1 US gal)
Crankcase	18 liters (4.8 US gal)
Transmission	33 liters (8.7 US gal)
Front axle	35 liters (9.2 US gal)
Rear axle	35 liters (9.2 US gal)
Hydraulic tank	110 liters (29.1 US gal)
Hydraulic system (including tank)	200 liters (52.8 US gal)

## DIMENSIONS

All dimensions are approximate.



Description	UNIT	HL960	HL960 XT
Bucket Type	General purpose bolt-on cutting edge		
A. Dumping clearance at max. height and 45° dump angle.	mm (ft-in)	2,935 (9' 7.5")	3,365 (11' 0.5")
B. Reach	Full lift	mm (ft-in)	1,295 (4' 3.0")
	7ft height	mm (ft-in)	1,825 (5' 11.9")
C. Digging depth	mm (in)	90 (3.5")	145 (5.7")
D. Overall length	on ground	mm (ft-in)	8,140 (26' 8.5")
	at carry	mm (ft-in)	8,030 (26' 4.1")

Description	UNIT	HL960	HL960 XT
E. Overall height (fully raised)	mm (ft-in)	5,640 (18' 6.0")	6,070 (19' 11.0")
F. Bucket pivot max. height	mm (ft-in)	4,105 (13' 5.6")	4,535 (14' 10.5")
G. Front overhang	mm (ft-in)	2,810 (9' 2.6")	3,275 (10' 8.9")
H. Wheelbase	mm (ft-in)	3,300 (10' 9.9")	3,300 (10' 9.9")
I. Ground clearance	mm (ft-in)	410 (1' 4.1")	410 (1' 4.1")
J. Height over exhaust	mm (ft-in)	3,360 (11' 0.3")	3,360 (11' 0.3")
K. Height over cab	mm (ft-in)	3,450 (11' 3.8")	3,450 (11' 3.8")
L. Roll-back angle	on ground	deg	42
	at carry	deg	48
M. Dump angle	deg	50	50
Clearance circle (Tread)	mm (ft-in)	11,225 (36' 9.9")	11,225 (36' 9.9")
N. Overall width	with bucket	mm (ft-in)	2,900 (9' 6.2")
	without bucket	mm (ft-in)	2,770 (9' 1.1")

## HL960/ DENSITY OF OPERATING MATERIALS

Loose Material	Material Density
Earth/Clay	1.5 ~ 1.7 (2528 ~ 2865)
Sand and Gravel	1.5 ~ 1.7 (2528 ~ 2865)
Aggregate	25 ~ 76 mm (1" to 3 in)
	19 mm (0.75 in) and larger

## HL960/ DENSITY OF OPERATING MATERIALS

Lift arm	Bucket	Type	m³ (yd³)	Material Density [t/m³]															
				1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	
				(1686)	(1854)	(2023)	(2191)	(2360)	(2528)	(2697)	(2865)	(3034)	(3203)	(3371)	(3540)	(3708)	(3877)	(4045)	
Standard lift arm	General Purpose	Cutting edge	3.4 (4.4)	3.9 m³ (5.1 yd³)										3.2 m³ (4.2 yd³)					
		Cutting edge	3.3 (4.3)	3.8 m³ (5.0 yd³)										3.1 m³ (4.0 yd³)					
		1-Bolt on tooth	3.2 (4.2)	3.7 m³ (4.8 yd³)										3.0 m³ (3.9 yd³)					
		2-Bolt on tooth	3.2 (4.2)	3.7 m³ (4.8 yd³)										3.0 m³ (3.9 yd³)					
		1-Bolt on tooth	3.1 (4.0)	3.6 m³ (4.7 yd³)										2.9 m³ (3.8 yd³)					
		2-Bolt on tooth	3.1 (4.0)	3.6 m³ (4.7 yd³)										2.9 m³ (3.8 yd³)					
		1-Bolt on tooth & segment edge	3.3 (4.3)	3.8 m³ (5.0 yd³)										3.1 m³ (4.0 yd³)					
		2-Bolt on tooth & segment edge	3.3 (4.3)	3.8 m³ (5.0 yd³)										3.1 m³ (4.0 yd³)					
		Cutting edge	3.4 (4.4)	3.9 m³ (5.1 yd³)										3.2 m³ (4.2 yd³)					
High lift arm (XTD)	General Purpose	Cutting edge	3.3 (4.3)	3.8 m³ (5.0 yd³)										3.1 m³ (4.0 yd³)					
		1-Bolt on tooth	3.2 (4.2)	3.7 m³ (4.8 yd³)										3.0 m³ (3.9 yd³)					
		2-Bolt on tooth	3.2 (4.2)	3.7 m³ (4.8 yd³)										3.0 m³ (3.9 yd³)					
		1-Bolt on tooth	3.1 (4.0)	3.6 m³ (4.7 yd³)										2.9 m³ (3.8 yd³)					
		2-Bolt on tooth	3.1 (4.0)	3.6 m³ (4.7 yd³)										2.9 m³ (3.8 yd³)					
		1-Bolt on tooth & segment edge	3.3 (4.3)	3.8 m³ (5.0 yd³)										3.1 m³ (4.0 yd³)					
		2-Bolt on tooth & segment edge	3.3 (4.3)	3.8 m³ (5.0 yd³)										3.1 m³ (4.0 yd³)					
		Cutting edge	3.4 (4.4)	3.9 m³ (5.1 yd³)										3.2 m³ (4.2 yd³)					
		Cutting edge	3.3 (4.3)	3.8 m³ (5.0 yd³)										3.1 m³ (4.0 yd³)					

115% 100% 95%

CABIN & INTERIOR	STD	OPT
<b>Alternator, 95 A</b>	●	
<b>Alarms, audible and visual</b>		
Air filter clogging	●	
Transmission error	●	
Battery voltage	●	
Brake oil pressure	●	
Engine oil pressure	●	
Parking brake	●	
Fuel level	●	
Hydraulic oil temperature	●	
Coolant temperature	●	
Transmission oil temperature	●	
Service brake oil pressure	●	
Coolant level	●	
Water in fuel	●	
<b>Alarm, back-up</b>	●	
<b>Batteries, PT</b>		
900 CCA, 12 V, (2)	●	
<b>Gauges</b>		
Engine coolant temperature	●	
Fuel level	●	
Speedometer	●	
Transmission oil temperature	●	
<b>Horn, electric</b>	●	
<b>Indicator lights</b>		
T/C lock up		●
High beam	●	
Turn signal	●	
FNR joystick steering		●
Pilot cut off	●	
<b>LCD Display</b>		
Clock and fault code	●	
Operating hour counter	●	
Engine rpm	●	
Transmission gear range	●	
Indicator	●	
Job time and distance	●	
Temperature (coolant, hydraulic oil, t/m oil)	●	
<b>Lighting system</b>		
LED dome light	●	
2 stop and tail lights	●	
4 turn signals	●	
Brake lights (counterweight)	●	
2 head lights on front tower	●	
2 working lights on front roof	●	
4 working lights on front roof, 2 working lights on rear roof		●
4 working lights (2 xenon) on front roof, 2 working lights on rear roof		●
4 working lights (LED) on front roof, 2 working lights (LED) on rear roof		●
2 working lights on grill	●	
<b>Switches</b>		
Hazard	●	
Ignition	●	
Parking	●	
Battery master switch	●	
FNR	●	
Diff, lock	●	
SCR cleaning / inhibit	●	
Secondary steering test		●
Pilot cut off	●	
<b>Membrane Switches in monitor</b>		
Main light	●	
Work light	●	
Auto grease		●
Quick coupler		●
Ride control		●
Work load	●	
Beacon lamp		●
Rear wiper	●	
Mirror heat		●
Auto position	●	
Fine modulation		●

CABIN & INTERIOR	STD	OPT
<b>Cab (sound suppressed and pressurized) with</b>		
Cigar lighter & ashtray	●	
Coat hook	●	
<b>Automatic climate control</b>		
Air conditioner & heater	●	
Defroster	●	
Intermittent wiper and washer, front and rear	●	
<b>Seat</b>		
2" retractable seat belt & adjustable	●	
2" static seat belt & adjustable mechanical suspension (heated)		●
3" static seat belt & adjustable mechanical suspension		●
2" retractable seat belt & adjustable air suspension (heated)		●
<b>Personal storage space</b>		
Console box	●	
Holder, can and cup	●	
Rear view mirrors (1 inside)	●	
Rear view mirrors (2 outside)	●	
Rear view mirrors (2 outside, Heated)		●
Steering column, tilt and telescopic	●	
Steering wheel with knob	●	
Roller type sunshade (front window)	●	
Roller type sunshade (rear window)		●
Tinted safety glass	●	
One door cab	●	
Magazine pocket	●	
<b>Pedals</b>		
One accelerator pedal	●	
One brake pedal	●	
Dual-Brake pedal		●
Radio/USB player	●	
Rubber floor mat	●	
Wrist rest	●	
24-volt to 12-volt DC converter (20A)		●
<b>ENGINE</b>		
<b>Antifreeze</b>	●	
<b>Engine, Cummins QSB6.7</b>		
Tier 4 Final / Stage 4	●	
Engine enclosure, lockable	●	
Engine fuel priming pump	●	
Fan guard	●	
Fuel/water separator	●	
<b>Clean emission module</b>		
DOC and SCR	●	
Rain cap, engine air intake	●	
3 Stage air precleaner		●
Radiator	●	
Starting aid (air intake heater)	●	
Fuel heater	●	
Fuel heater (Dual)		●
Coolant level sight gauge	●	
Engine oil level dipstick gauge	●	
Air cleaner with auto dust eject	●	
<b>POWER TRAIN</b>		
Brakes : Service, enclosed wet-disc	●	
Parking brake	●	
Torque converter	●	
Transmission F4 / R3, computer controlled, electronic soft shift, auto-shift and kick-down features included		●
Transmission F5 / R3 with lock-up clutch	●	
Transmission oil sight level	●	
Limited slip differential (front, rear)		●
Transmission oil cooler	●	
Transmission oil cooler with thermostat		●
Hydraulic lock differential (front)	●	
Front axle cooling system		●

POWER TRAIN	STD	OPT
<b>Tires</b>		
23.5 R25, L3	●	
23.5 - 25, 20PR, L3		●
23.5 - 25, 20PR, L5		●
23.5 R25, XHA2		●
20.5-25, 16PR, L3		●
Travel speed limiter (20-40 km/h)		●
<b>HYDRAULIC SYSTEM</b>		
Boom kickout, automatic	●	
Bucket positioner, automatic	●	
Diagnostic pressure taps	●	
Hydraulic oil cooler	●	
Hydraulic control, 2 spool		●
Hydraulic control, 3 spool	●	
Joystick Control (EH control)		●
Lever control-single axle (EH control)		●
Joystick Steering		●
Ride control system	●	
Secondary steering system	●	
Extra piping-for auxiliary function		●
Quick coupler piping		●
Auto grease system		●
<b>OTHER</b>		
Articulation locking bar	●	
Counterweight	●	
Optional counter weight		●
Door and cab locks, one key	●	
Doors, service access (locking)	●	
Drawbar with pin	●	
Ergonomically located and slip resistant, left & right	●	
Handrails	●	
Ladders	●	
Platforms	●	
Steps	●	
Fenders (front / rear)	●	
Hydraulic oil level sight gauge	●	
Lift and tie-down hooks	●	
Loader linkage, sealed	●	
Z-bar design	●	
Vandalism protection caplocks	●	
Tool kit		●
Cutting edge, bolt-on type	●	
Tooth, 1 piece, bolt-on type		●
Tooth, 2 pieces, bolt-on type		●
Pallet forks		●
<b>Guards</b>		
Crankcase	●	
Transmission	●	
Mud guards	●	
Wheel chock	●	
License plate & lamp		●
Hi MATE (Remote Management System)	●	
Rearview camera	●	
<b>SAFETY</b>		
Beacon light, rotating		●
Fire extinguisher		●
Operator suit		●

STD = Standard  
OPT = Optional

- \* Standard and optional equipment may vary. Contact your Hyundai dealer for more information.
- \* The machine may vary according to International standards.
- \* The photos may include attachments and optional equipment that are not available in your area.
- \* Materials and specifications are subject to change without advance notice.
- \* All imperial measurements rounded off to the nearest pound or inch.
- \* The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant HFC-134a (Global Warming Potential = 1430). The system contains 0.75 kg of refrigerant which has a CO<sub>2</sub> equivalent of 1.0725 metric tonne.



PLEASE CONTACT

**Hyundai Construction Equipment Europe nv**

Hyundailaan 4, 3980 Tessenderlo, Belgium **Tel:** (32) 14-56-2200 **Fax:** (32) 14-59-3405 [www.hyundai.eu](http://www.hyundai.eu)

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