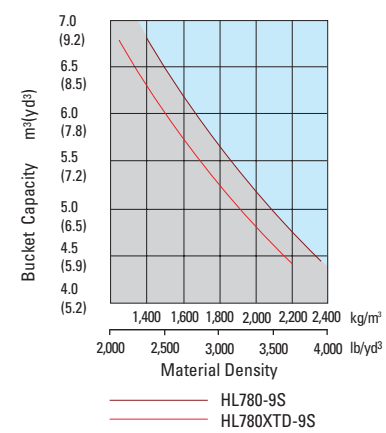


BUCKET SELECTION GUIDE



STANDARD EQUIPMENT

Electrical system Alternator, 70A Alarms, audible and visual - air filter clogging - transmission error - alternator voltage - brake oil pressure - engine oil pressure - parking brake - fuel level - hydraulic oil temperature - coolant temperature - service brake oil pressure Alarm, back-up Batteries, 1,315 CCA, 12V, (2) Gauges - engine coolant temperature - fuel level - hydraulic oil temperature - speedometer - transmission oil temperature - voltmeter Horn, electric Indicator lights - clutch cut-off - high beam - turn signal LCD Display - clock and fault code - operating hour counter - engine rpm	- transmission gear range indicator - job time and distance - temperature(coolant, hydraulic oil, t/m oil) Lighting system - 1 LED dome lights - 2 stop and tail lights - 4 turn signals - brake lights (counterweight) - 2 head lights on front tower - 2 working lights on front roof - 2 working lights on grill Switches - clutch cut-off - hazard - Ignition key, start/stop switch - main light(illumination and head light) - parking - rear wiper & washer - work light - battery master switch Starter, electric Starting and charging system(24-volt) Cab Cab (sound suppressed and pressurized) with : - cigar lighter & ashtray - coat hook Automatic climate control	- air conditioner & heater - defroster - intermittent wiper and washer, front and rear - personal storage space: Console box Holder, can and cup Rear view mirrors (1 inside) Rear view mirrors (2 outside) 2" static seat belt & mechanical suspension seat with armrests Steering column, tilt and telescopic Steering wheel with knob Roller type sunshade (front / rear window) Tinted safety glass Two door cab Magazine pocket Pedals - one accelerator pedal - one brake pedal Radio/USB player Rubber floor mat Wrist rest Roller type sunshade (rear window) Engine Antifreeze Engine, Cummins QSM11 - Low Emission Diesel, Tier3 Engine enclosure, lockable	3 operating mode (power / standard / econo) Fan guard Fuel / water separator Fuel warmer Muffler, under hood with large exhaust stack Rain cap, engine air intake Radiator Starting aid (air intake heater) Power Train Brakes : Service, enclosed wet-disc Differentials Parking brake Torque converter Transmission, computer-controlled, electronic soft shift, auto-shift and kick-shift features included Transmission oil cooler Hydraulics Boom kickout, automatic Bucket positioner, automatic Diagnostic pressure taps Hydraulic oil cooler Hydraulic system, - 2 spool, single lever, pilot control for boom and bucket actuation Steering, load-sensing Remote cooling fan,	hydraulically-driven, temperature sensing type Others Articulation locking bar Coolant level sight gauge Counterweight Door and cab locks, one key Doors, service access (locking) Drawbar with pin Engine oil level dipstick gauge Ergonomically located and slip resistant, left & right - handrails - ladders - platforms - steps Fenders (front / rear) Guard, bucket cylinder rod Hydraulic oil level sight gauge Lift and tie-down hooks Loader linkage, sealed Z-Bar design Steering stops, cushioned Tires(29.5-25, 22PR,L3) Transmission oil site level Vandalism protection caplocks
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OPTIONAL EQUIPMENT

24-volt to 12-volt DC converter 3 Spool Climate control - air conditioner only - heater only Beacon light, rotating Auxiliary, 2 working lights on front roof (Xenon working lights) Auxiliary, 2 working lights on rear roof Cutting edge, bolt-on type Dual brake pedal	Secondary steering system Fire extinguisher High lift arrangement with additional counterweight, 552kg (1,210lb) 3rd spool for auxiliary function Operator suit Mud guard Pallet forks Heated rear view mirrors (2 outside)	Reversible cooling fan Ride control system Seat - 2" retractable seat belt & adjustable mechanical suspension (vinyl) - 3" retractable seat belt & adjustable mechanical suspension - 2" retractable seat belt & adjustable air suspension (heated)	Cab, ROPS / FOPS Tires : - 29.5 - 25, 28PR L3 - 29.5 - 25, 28PR L5 - 26.5 - 25, 32PR L3 - 29.5 R25 XHA* Tool kit Tooth, 2 pieces, bolt-on type Wheel chock Pre-cleaner, engine air intake License plate & lamp	Hi-Mate (Remote Management System) Rearview camera Heavy duty axle (Front, Rear) Axle cooling system Hyd, lock differential (Front) 3rd fuel prefilter
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Standard and optional equipment may vary. Contact your Hyundai dealer for more information. The machine may vary according to International standards. All imperial measurements rounded off to the nearest pound or inch.

PLEASE CONTACT



HYUNDAI

HEAVY INDUSTRIES CO.,LTD.

CONSTRUCTION EQUIPMENT

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9 9 9 0 0 9 - 5 0 2 2 9 0

We build a better future

HL780-9s

With Tier 3 Engine installed



*Photo may include optional equipment.

Pride at Work

Hyundai Heavy Industries strives to build state-of-the art earthmoving equipment to give every operator maximum performance, more precision, versatile machine preferences, and proven quality. Take pride in your work with Hyundai!



*Photo may include optional equipment.

HL780-9s

Machine Walk-Around

Reliable Main Components

Engine Technology

Well Proven, reliable, fuel efficient, low noise Cummins Tier-III QSM11 engine.
3 Engine operating mode (Power / Standard / Econo)

Fully Automatic Transmission

4 step (Manual / Light / Normal / Heavy) shift mode by working condition
Protective transmission at low temperature (Automatic warm-up system)
Self-diagnostic & Memory of malfunction history
Minimum travel shift shock by applying proportional controlling modulation valve / Self adjusting
Clutch gap
Kick-down button

Axle

Wheel speed wet disc brake

Improved Durability

Long-life cooling system, designed for additional durability, resistant to thermal shock, impulse and vibration.

Enhanced Operator Comfort

Improved Visibility

Larger operator's cab for additional comfort.
Redesigned cab with rounded front glass and larger door glass for a larger field of view.

Improved Convenience

Increased cooling & heating capacity with fully automatic climate control system.
Tilting & telescopic steering column.
Adjustable wrist rest for reduced operating stress.
Multiple storage compartments.
AM/FM Radio with MP3 interface and USB input.
Improved ladder with 20 Degree incline and large, deep tread, non-slip steps for safer access and exit from the cab.

Advanced 5.7" Color Monitor

Easy-to-read new color LCD display.
Self diagnostic & monitoring system with active display of hydraulic system, transmission and electrical component information.
Color, rear-view, back-up camera for improved safety and convenience.

Serviceability

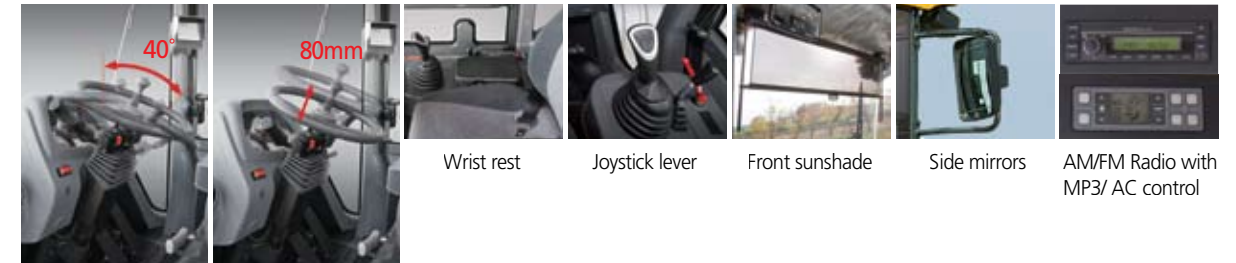
Reversible, swing-out, cooling fan for easy service and improved cooler maintenance.
Ground level access to critical service points, filters and sight gauges for easy maintenance.

Operator Comfort

Operating a 9S series wheel loader is unique to every operator. Operators can fully customize their work environment and operating preferences to fit their individual needs.

Operator Comfort

In the 9S series cabin you can easily adjust the steering column and wrist rest to best suit your preferred comfort level. Pilot-operated joystick controls are easy and comfortable to operate. Roller type sunshades on the front window allow the operator to reduce glare and improve visibility. Heated side mirrors feature built-in hot wires for quick defrosting during cold weather conditions.



Tilting / telescopic steering column

Reduced Stress

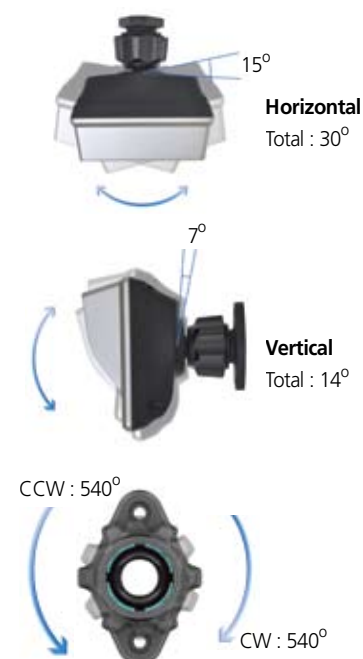
Work is stressful enough. Your work environment should be stress free. Hyundai's 9S series cabin offers lots of amenities, additional space and a comfortable seat to minimize stress to the operator. A powerful climate control system provides the operator with optimum air temperature. An advanced audio system with AM/FM stereo with MP3 interface and USB input, plus remotely located controls is perfect for listening to music favorites.

Advanced Color Monitor



The advanced new monitor with 5.7 inch wide color LCD screen allows the operator to easily and efficiently control the machine. Self diagnostics, color rear-view camera maintenance check lists and start-up machine security, were integrated into the monitor to make the machine more versatile and the operator more productive. The new monitor display unit is mounted on an adjustable swivel mount to reduce glare and position according to operator preference.

Monitor Tilt Range



*Photo may include optional equipment.



Wide and Convenient Cab

The newly designed cabin was conceived for more space, a wider field of view and operator comfort. The front glass is rounded and 17% wider than the previous 7A series. Special attention was given to a clean, open and convenient interior with plenty of visibility on the machine surroundings and the job at hand. This well balanced combination of cab ergonomics puts the operator in the perfect position to work safely and securely. The 9S series cab's fully automatic climate control system features 11 air vents and increased cooling and heating capacity for optimum temperature control. The defroster vents located on the front and rear windows and a PTC (electric pre-heater, Option) make working in cold weather more hospitable.

Precision & Performance

Innovative hydraulic system technologies make the 9S series wheel loader fast, smooth and easy to control. 9S series wheel loaders are designed for maximum performance to keep the operator working productively.



Improved Durability & Reliability



An enhanced axle improves driving over variable ground conditions. Sintered brake discs reduce service time and improve brake reliability and performance. Service and clean-out are easier on the 9S series, now equipped with a completely redesigned, parallel-mounted, cooler configuration and non-louvered fins to prevent clogging. All coolers are designed with aluminum bar plate configuration and undergo strict factory tests for thermal shock, impulse and vibration to assure long term durability. Top mounted non-louvered aluminum air condenser and variable displacement A/C compressor are designed for maximum cooling capacity, energy savings and easy clean-out.

Variable Operating Modes



9S series wheel loaders are designed to allow the operator to customize automatic transmission shift timing and clutch cut-off activation based on the job condition and personal operator preference. Convenient rotary type switches allow for easy adjustment of transmission power shift mode, and clutch cut-off mode. Additionally, if equipped with the optional ride control system, the operator has the option to turn the system on or off with an overhead switch. The ride control system has a shock absorbing accumulator that cushions the boom, improves operator comfort and reduces material loss. The versatility of the 9S series operating modes contributes to improved productivity, enhanced operator comfort and reduced fuel consumption.



3 Mode Engine Power Selection
P(Power) Mode : Heavy duty work
S(Standard) Mode : General work
E(Economy) Mode : Light duty work

4 Mode Transmission Power Shift System
M(Manual) Mode
Auto L(Light) Mode : Light duty & long distance carry
Auto N(Normal) Mode : General excavating & loading
Auto H(Heavy) Mode : Heavy duty excavating & loading

ICCO(Intelligent Clutch Cut-off) System
Improved productivity(more power available for hyd.system) and smooth control of machine speed.



Eco-friendly
Cummins QSM11 Engine

The CUMMINS QSM11 electronic control engine combines full-authority electronic controls with the reliable performance. The combination of improved airflow and evenly dispersed fuel results in increased power, improved transient response and reduced fuel consumption. And the QSM11 uses advanced electronic controls to meet the emission standards. (EPA Tier-3, EU StageIII-A)



Fully Automatic
Transmission

Fully automatic transmission designed for maximum durability, Minimum power loss, improved travel speed and low noise. Improved clutch control and minimized shifting shock when traveling, contribute to a smoother ride. Error messages and transmission fault history are recorded and accessible through the monitor.

*Photo may include optional equipment.

Profitability

9S series is designed to maximize profitability through improved efficiencies, enhanced service features and longer life components.



*Photo may include optional equipment.



Hi-mate (Remote Management System)

Hi-mate, Hyundai's proprietary remote management system, provides operators and dealer service personnel access to vital service and diagnostic information on the machine from any computer with internet access. Users can pinpoint machine location using digital mapping and set machine work boundaries, reducing the need for multiple service calls. Hi-mate saves time and money for the owner and dealer by promoting preventative maintenance and reducing machine downtime.



Remote-mounted Cooling Fan

The remote mounted, hydraulically powered cooling fan regulates fan speed according to working temperatures for coolant, intake air, transmission oil and hydraulic oil. This new fan design contributes to reduced fuel consumption and machine noise. (Option: The fan is designed to auto reverse periodically or manually reverse to keep debris from accumulating on the coolers)



Swing Out Cooling Fan

The engine fan is integrated into the rear door which swings open to over 45 degrees for easy access and regular maintenance.



Wide Open Access

Conveniently located coolant and transmission oil site gauges make checking fluid levels fast and efficient. Ground-line access to fuel and oil filters grease fittings, fuses, machine computer components and wide open compartments makes service more convenient on the 9S series.



Hydraulic Oil
(5,000 hr)

Extended Life Components

The 9S series is designed for longer lubrication intervals and extended component life. Hydraulic oil can last up to 5,000 hours before changing. Also, a new center pivot roller bearing design, now double tapered, requires less maintenance as well. Long life and extended wear components save the operator time and money.

Specifications & Dimensions

ENGINE

Maker/Model	CUMMINS QSM11
Type	Watercooled, 4-cycle, turbocharged, charge aircooled direct injection, electronic controlled diesel engine
Gross power	348HP (260 kW) / 2,000rpm
Net power	331HP (247 kW) / 2,000rpm
Maximum torque	171kg.m (1,235 lb.ft) / 1,400rpm
No. of cylinders	6

※No derating for continuous operating required up to 3,048m (10,000ft). This engine meets the EPA(Tier III) / EU(Stage III-A) Emission regulation.

TRANSMISSION

Torque converter type	3-elements, single-stage Double-phase
Tire	29.5-25, 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

AXLES

Drive system	Four-wheel drive system
Mount	Rigid front axle and oscillating rear axle
Rear axle oscillation	±13° (total 26°)

HYDRAULIC SYSTEM

Type	Open centered tandem circuit system
Pump	Vane 471 rpm 124.4 gpm
Control valve	2 Spool (Bucket, Boom) 3 Spool (Bucket, Boom, Aux) Pilot pressure controled type
System pressure	210 kgf/cm² (2,990 psi)

Bore x Stroke	125 mm (4.9") x 147 mm (5.8")
Displacement	10.8ℓ (660 cu in)
Compression ratio	16.3 : 1
Air cleaner	Dry, Two stages dual elements
Alternator	24V, 70 Amp
Battery	2 x 12V, 220 Ah.
Starting motor	24V, 7.5 kW

Travel speed		km/h (mph)
Forward	1st	6.1(3.8)
	2nd	11.5 (7.1)
	3rd	18.0 (11.2)
	4th	36.5 (22.7)
Reverse	1st	6.1 (3.8)
	2nd	11.5 (7.1)
	3rd	25.0 (15.5)

Hub reduction	Planetary reduction at wheel end
Differential	Conventional
Reduction ratio	27.0

Bucket Controls	Type	Pilot operated lift and tilt circuit, single-lever(joystick) control standard.
	Lift Circuit	The valve has four functions ; raise, hold, lower and float. Can adjust automatic kickout from horizontal to full lift.
	Tilt Circuit	The valve has three functions ; tilt back, hold and dump. Can adjust automatic bucket positioner to desired load angle.
Cylinder		Type : Double acting Lift, bore x stroke 2-200 mm (7.0") x 863 mm (34.0") Tilt, bore x stroke HL780-9S 2-160 mm (5.5") x 580 mm (22.6") HL780XTD-9S 2-160 mm (5.5") x 570 mm (25.4")
Cycle Time		Raise : 6.7 sec (with load) Dump : 1.4 sec Lower : 3.0 sec (empty) Total : 11.1 sec

BRAKES

Service Brakes	Hydraulically actuated, wet disc brakes actuate all 4 wheels independent axle-by-axle system. Wheel speed brake.
Parking Brake	Spring-applied, hydraulically released disc brake on transmission output
Emergency Brake	When brake oil pressure drops, indicator light alerts operator and parking brake automatically applies.

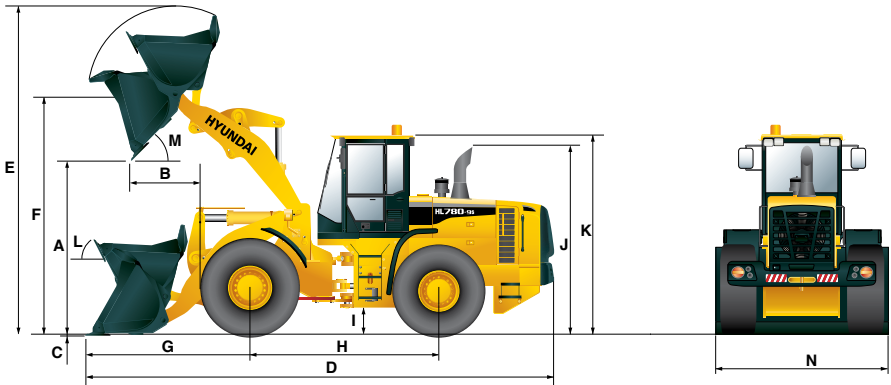
SERVICE REFILL CAPACITIES

Fuel tank	450 liters (118.8 USgal)
Cooling system	65 liters (17.2 USgal)
Crankcase	38 liters (10.0 USgal)
Transmission	43 liters (11.4 USgal)

OVERVIEW

Description		UNIT	HL780-9S	HL780XTD-9S
Operating weight		kg (lb)	29,500 (65,040)	30,200 (66,580)
Bucket capacity	Heaped	m³(yd³)	5.1 (6.7)	5.1 (6.7)
	Struck	m³(yd³)	4.3 (5.6)	4.3 (5.6)
Breakout force-bucket		kg (lb)	24,820 (54,720)	23,880 (52,650)
Tipping load	Straight	kg (lb)	23,940 (52,780)	21,660 (47,750)
	Full turn	kg (lb)	20,770 (45,790)	18,660 (41,140)

DIMENSIONS



Description		UNIT	HL780-9S	HL780XTD-9S
Bucket Type		General purpose bolt-on cutting edge		
A. Dumping clearance at max. height and 45° dump angle.		mm (ft-in)	3,300 (10' 10")	3,720 (12' 2")
B. Reach	Full lift	mm (ft-in)	1,365 (4' 6")	1,430 (4' 8")
	7ft height	mm (ft-in)	2,070 (6' 9")	2,440 (8')
C. Digging depth		mm (in)	95 (3.7")	110 (4.3")
D. Overall length	on ground	mm (ft-in)	9,475 (31' 1")	9,970 (32' 9")
	at carry	mm (ft-in)	9,400 (30' 10")	9,920 (32' 7")
E. Overall height (fully raised)		mm (ft-in)	6,160 (20' 3")	6,590 (21' 7")
F. Bucket pivot max. height		mm (ft-in)	4,510 (14' 10")	4,930 (16' 2")

STEERING SYSTEM

Type	Full hydraulic power steering		
Pump	Vane, 264 liters/min (69.7 gal/min)		
Relief Valve Setting	210 kg/cm² (2,990 psi)		
Cylinder	Type	Double acting	
	Bore x Stroke	110mm (4.1") x 480mm (18.9")	
Steering Angle	40°(each direction)		

- Features
- Center-point frame articulation.
 - Load-sensing, flow amplified system.
 - Tilt and telescopic steering column.

Front axle	58 liters (15.3 USgal)
Rear axle	58 liters (15.3 USgal)
Hydraulic tank	203 liters (53.6 USgal)
Hydraulic system (including tank)	336 liters (88.8 USgal)

TIRES

Type	Tubeless, loader design tires
Standard	29.5-25, 22 PR, L3
Options include	26.5-25, 32 PR, L3 29.5-25, 28 PR, L3 29.5-25, 28 PR, L5 29.5 R25 XHA*