

# 862H

## WHEEL LOADER

Tier 2 / Stage II



## SPECIFICATIONS

<b>Operating weight</b>	<b>19,500 kg</b>
Operating weight includes the machine weight with standard work device, no additional equipment or accessories, full fuel tank, all fluids at required level and an operator 75 kg.	
<b>Bucket capacity</b>	<b>3.5 - 5.6 m<sup>3</sup></b>

### ENGINE

#### Description

Cummins EPA Tier 2 / EU Stage II-approved, 8.9 liter, 6-cylinder straight turbocharged diesel engine with mechanical direct fuel injection system

Cummins turbocharged system, high transient response .

Cummins fuel filtration system, high filtration efficiency .

Air cleaning: Whirlwind pre filter, two stage air filter .

Cooling system: Air-to-air intercooler, direct driven fan and suction type cooling system, single radiator layout .

Emission rating	EPA Tier 2 / EU Stage II
Make	Cummins
Model	6LTAA8.9-C240
Engine output - Gross (SAE J1995 / ISO 14396)	179 kW (243 hp) @ 2,200 rpm
Engine output - Net (SAE J1349 / ISO 9249)	165 kW (221 hp) @ 2,200 rpm
Peak torque	1,124 N·m
Displacement	8.9 L
Number of cylinders	6
Aspiration	Turbocharged & air-to-air intercooled

### SERVICE CAPACITY

Fuel Tank	330 L
Engine Oil	22 L
Cooling System	52 L
Hydraulic System	280 L
Transmission and Torque Converter	35 L
Axles, Each (AP3000 wet axle)	41 L
Axles, Each (Liugong dry axle)	41 L

### TRANSMISSION

#### Standard Description

Torque converter: single-stage, three elements.

Transmission: ZF 4BP 230 countershaft transmission, integrated pilot single joystick with FNR, KD and horn. Electro proportional valve, continuous power in gears shift and less compact.

Gearshifting system: ZF Automatic Power Shift with auto modes (1~4/2~4) all start in gear 2, faster and better for long distance material transport.

Transmission type	Counter shaft, power shift
Torque converter	Single stage, three elements
Maximum travel speed, fwd	37 km/h
Maximum travel speed, rev	25 km/h
Number of speed, fwd	4
Number of speed, rev	3

### HYDRAULIC SYSTEM (AP3000 WET AXLE)

#### Description

System supply: One gear pump and one axial piston pump with fix & variable displacement. The steering function always has priority.

Valves: Double-acting 2-spool valve. The main valve is controlled by a 2-spool pilot valve.

Lift function: The valve has four positions: lift, hold, lower, and float. Inductive/magnetic automatic boom kick-out can be switched on and off and is adjustable to two positions: bucket at ground Level and maximum reach full lifting height.

Tilt function: The valve has three functions: rollback, hold and dump.

Cylinders: Double-acting cylinders for all functions.

Filter: Full-flow filtration through 12 micron (absolute) filter cartridge.

Main pump type	Gear + Piston
Main relief pressure	22 MPa
Raise	5.7 s
Dump time	1.3 s
Float down time	3 s
Fastest total cycle time	10 s
Controls	Joystick

### HYDRAULIC SYSTEM (LIUGONG DRY AXLE)

#### Description

System supply: Two gear pumps with fix displacement. The steering function always has priority.

Valves: Double-acting 2-spool valve. The main valve is controlled by a 2-spool pilot valve.

Lift function: The valve has four positions: lift, hold, lower, and float. Inductive/magnetic automatic boom kick-out can be switched on and off and is adjustable to two positions: bucket at ground Level and maximum reach full lifting height.

Tilt function: The valve has three functions: rollback, hold and dump.

Cylinders: Double-acting cylinders for all functions.

Filter: Full-flow filtration through 12 micron (absolute) filter cartridge.

Main pump type	Gear
Main relief pressure	20.7 MPa
Raise	5.7 s
Dump time	1.3 s
Float down time	3 s
Fastest total cycle time	10 s
Controls	Joystick

### BRAKES (AP3000 WET AXLE)

#### Description

Two independent brake circuits, accurate control with the advanced main valve & piston pump.

Service brake type	Wet discs brake, two independent circuits
Service brake actuation	Hydraulic
Parking brake type	Manual electronic control
Parking brake actuation	Hydraulic

### BRAKES (LIUGONG DRY AXLE)

#### Description

Two independent brake circuits, accurate control with the main valve & gear pump.

Service brake type	Caliper discs brake, two independent circuits
Service brake actuation	Air over hydraulic
Parking brake type	Manual pneumatic control
Parking brake actuation	Mechanical

## STEERING

### Description

Steering system: Load-sensing hydraulic articulated steering.

System supply(AP3000 wet axle): The steering system has priority feed from a load-sensing axial piston pump with variable displacement.

System supply(Liugong dry axle): The steering system has priority feed from a gear pump with fix displacement.

Steering cylinders: Two double-acting cylinders.

Steering configuration	Articulated
Steering relief pressure	20 MPa (AP3000 wet axle) 19 MPa (Liugong wet axle)
Steering cylinders	2
Cylinder bore	90 mm
Rod diameter	50 mm
Stroke	465 mm
Maximum flow	140 L/min
Maximum articulation	±38°
Smallest turn (over tire)	6,450 mm

## CAB

### Description

Instrumentation: All important information is centrally located in the central instrument panel and operator's field of vision. Large curved front glass, rear mirrors ensure great visibility.

Adjustable steering column, high back seat, armrest box and A/C with all-around air outlets.

Pressurized cab with lower interior noise. The cab is tested and approved according to ROPS (ISO 3471), FOPS (ISO 3449).

## ELECTRICAL SYSTEM

### Description

The central warning system is a conronic electrical system with central warning light and buzzer for the following functions: Serious engine fault, low steering system pressure, interruption in communication (computer failure)

A central warning light and buzzer when the gear is engaged is for the following functions: Low engine oil pressure, low transmission oil pressure, high transmission oil temperature, low brake pressure, engaged parking brake, brake charging failure, high hydraulic oil temperature

Voltage	24 V
Batteries	2 x 12 V
Battery capacity	2 x 120 Ah
Cold cranking capacity, approx	850 A
Reserve capacity	230 min
Alternator rating	1,960/70 W/A
Starter motor output	4.8 kW

## SOUND & ENVIRONMENT

Sound level in cab according to ISO 6396-2008/EN ISO 3744-1995	81 dB(A)-- Travel mode
Sound level in cab according to ISO 6396-2008/EN ISO 3744-1995	82 dB(A)-- Stationary work cycle mode
External sound level according to ISO 6395-2008	112 dB(A)-- Travel mode
External sound level according to ISO 6395-2008	113 dB(A)-- Stationary work cycle mode
Ventilation	9.2 m³ (12 yd³)
Heating capacity	5.8 kW (7.8 hp)
Air conditioning	6 kW (8 hp)

## AXLES (AP3000 WET AXLE)

Model	AP3000 (Wet type)
Differential front type	Conventional
Differential rear type	Conventional

Axle oscillation ±12°

## LOADER ARM PERFORMANCE WITH ATTACHMENT

### Description

Tipping Load data is calculated with standard bucket at 3.5 m³ and operating weight at 19,500 kg.

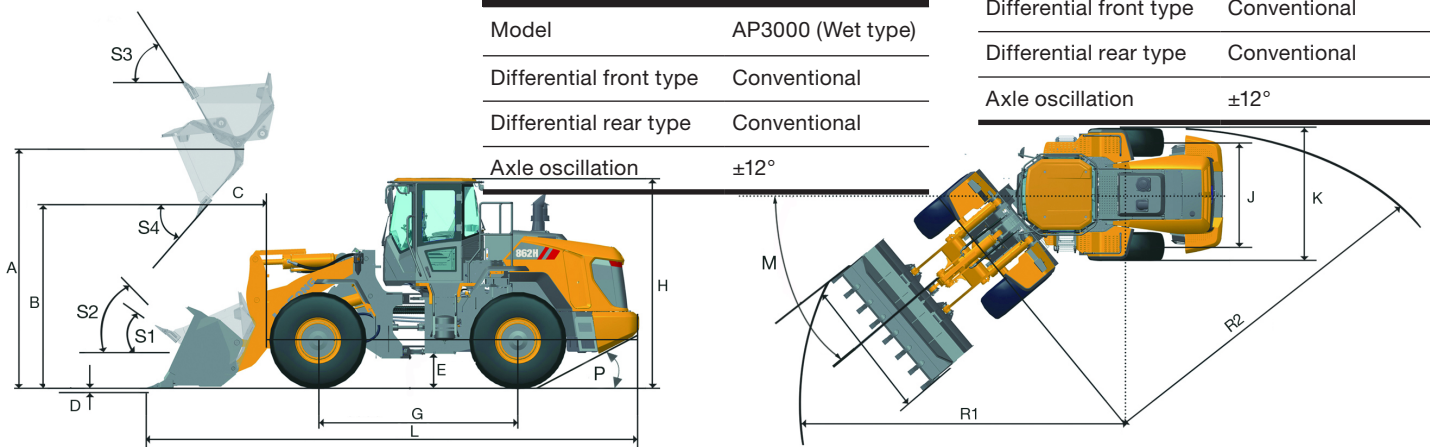
Tipping load - straight according to ISO 14397-1:2007	16,600 kg
Tipping load - full turn according to ISO 14397-1:2007	14,100 kg
Bucket breakout force	195 kN
A Maximum hinge pin height	4,212 mm
B Dump clearance at full height discharge	3,100 mm
C Dump reach at full height discharge	1,195 mm
D Maximum digging depth, bucket level	80 mm
S <sub>1</sub> Bucket rollback at ground level	43°
S <sub>2</sub> Bucket rollback at carry	48°
S <sub>3</sub> Bucket rollback at maximum height	65°
S <sub>4</sub> Maximum dump angle at full height	45°

## DIMENSIONS

E Ground clearance	431 mm
G Wheelbase	3,450 mm
H Cab height	3,467 mm
J Wheel tread	2,280 mm
K Width over tires	2,880 mm
L Length with bucket down	8,628 mm
M Turn angle, either side	38°
P Rear angle of departure	27°
R <sub>1</sub> Turning radius, bucket carry	7,114 mm
R <sub>2</sub> Turning radius, outside of tire	6,450 mm





## AXLES (LIUGONG DRY AXLE)

Model	Liugong (Dry type)
Differential front type	Conventional
Differential rear type	Conventional
Axle oscillation	±12°



## TIRES

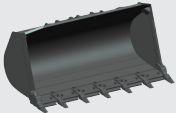
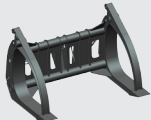
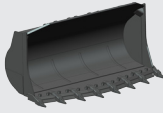

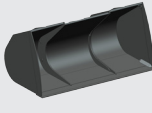
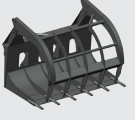




Choosing the right tyres for your machine will become a key competitive advantage to achieve outstanding performance. Through close engineering and development cooperation with renowned and carefully selected suppliers, Liugong can offer full range of tyres specially tailored for wheel loader.

Code	Application	Patterns	Size	PR / *	Tube Type	Width	Overall Diameter	Tread Depth	Load Capacity, 50 km/h / 10 km/h
L2	<ul style="list-style-type: none"> <li>where good traction is needed, e.g. at grading work</li> <li>in soft and muddy operation where sharp stones don't occur</li> <li>in all load/carry operations</li> </ul>		23.5 - 25	12	TL	595 mm	1,615 mm	29.5 mm	3,650 / 6,150 kg
			23.5 - 25	16	TL	595 mm	1,615 mm	29.5 mm	6,150 / 9,500 kg
L3	<ul style="list-style-type: none"> <li>in sand operation</li> <li>in all kind of load/carry operation</li> <li>the L3-tread is not as open as L2 and has consequently less self-cleansing compared with an L2 tyre</li> </ul>		23.5 - 25	16	TL	595 mm	1,615 mm	35 mm	6,150 / 9,500 kg
			23.5 - 25	20	TL	595 mm	1,615 mm	35 mm	7,300 / 10,900 kg
			23.5 - 25	24	TL	595 mm	1,615 mm	35 mm	8,000 / 13,200 kg
			23.5 R 25	*	TL	600 mm	1,617 mm	36 mm	7,100 / 12,150 kg
			23.5 R 25	**	TL	600 mm	1,617 mm	36 mm	9,250 / 14,500 kg
L5	<ul style="list-style-type: none"> <li>in very aggressive material where good protection against cut damages is demanded, e.g. in quarries or mines</li> </ul>		23.5 R 25	*	TL	612 mm	1,662 mm	78 mm	12,150 kg @ 10 km/h
			23.5 R 25	**	TL	775 mm	1,905 mm	78 mm	14,500 kg @ 10 km/h

Note: The radial tire-load bearing capacity is indicated by the number of stars (\*). More stars, greater radial tire-load bearing capacity. For the specific radial tire sizes listed in the table above, 2 stars (\*\*) represents the maximum radial tire-load bearing capacity.

## ATTACHMENTS

Liugong attachments with pin-on or quick-coupler ensure high quality. The integrated design of the system creates a perfect match to achieve superior productivity.

Type	Capacity	Width	Height	Digging Depth	Dump Clearance	Dump Reach	Description	Image	
General Purpose	3.5 m <sup>3</sup>	3,046 mm	1,505 mm	126 mm	3,100 mm	1,195 mm	Anti-Wear Blade with Welded Teeth.		
	4.0 m <sup>3</sup>	3,232 mm	1,590 mm	112 mm	2,983 mm	1,312 mm	Anti-Wear Blade with Bolt-on Cutting Edge and Bolt-on Teeth.	General Purpose	Grapple with Aligned Teeth
	4.2 m <sup>3</sup>	3,232 mm	1,590 mm	112 mm	2,906 mm	1,389 mm	Bolt-on Cutting Edge; Bolt-on Teeth; Bolt-on Cutting Edge and Bolt-on Teeth.		
	4.5 m <sup>3</sup>	3,232 mm	1,642 mm	112 mm	2,906 mm	1,389 mm	Bolt-on Cutting Edge; Bolt-on Teeth.	Rock	Grapple with Crossed Teeth
Light Material	4.5 m <sup>3</sup>	3,232 mm	1,611 mm	80 mm	2,906 mm	1,389 mm	Bolt-on Cutting Edge.		
	5.0 m <sup>3</sup>	3,140 mm	1,510 mm	89 mm	2,898 mm	1,397 mm	Bolt-on Cutting Edge.	Light Material	Grass Grapple
	5.6 m <sup>3</sup>	3,140 mm	1,573 mm	89 mm	2,959 mm	1,336 mm	Bolt-on Cutting Edge; Bolt-on Cutting Edge and Welded Teeth.		
Rock	3.3 m <sup>3</sup>	2,890 mm	1,598 mm	143 mm	2,972 mm	1,252 mm	V-Shape Anti-Wear Blade.	Side-Dump Bucket	Forks
Grapple	Φ1,000 mm	2,640 mm	1,732 mm	62 mm	2,610 mm	1,678 mm	Aligned Teeth.		
	Φ350 mm	2,600 mm	1,520 mm	62 mm	2,862 mm	1,485 mm	Crossed Teeth.	Side-Dump Bucket	Forks

# STANDARD EQUIPMENT

## ENGINE

- Cummins 6LTA8.9-C240 Engine, EPA Tier 2 / EU Stage II Engine output net 161 kW (219 hp) air-to-air intercooled, 6 cylinders, 4 stroke
- Mechanical direct fuel injection system
- Pre-filter with water separator
- Fuel filter
- Direct driven fan
- Grid heater

## TRANSMISSION

- ZF Ergopower 4BP230 automatic power shift transmission
- Kick-down function, FNR, F4/R3
- Transmission oil level sight gauge
- Secondary oil filter, oil stick
- Remote pressure taps for diagnostics
- Auto shifting mode by speed
- Interlock between parking brake and gear shifting

## AXLE(AP3000 WET AXLE)

- ZF wet axle without limited slip differentials
- Wet discs service brake system
- Parking brake service as secondary

## AXLE(LIUGONG DRY AXLE)

- Liugong dry axle without limited slip differentials
- Caliper discs service brake system
- Parking brake service as secondary

## HYDRAULIC SYSTEM(AP3000 WET AXLE)

- One gear pump and one piston pump with fix-variable displacement hydraulic load-sensing
- Single joystick control
- Boom kick-out, automatic
- Bucket positioner, automatic
- Plug at the port of bucket and boom cylinder for pressure check
- Emergency boom lower via pilot accumulator

## HYDRAULIC SYSTEM(LIUGONG DRY AXLE)

- Two gear pumps with fix displacement hydraulic load-sensing
- Single joystick control
- Boom kick-out, automatic
- Bucket positioner, automatic
- Plug at the port of bucket and boom cylinder for pressure check
- Emergency boom lower via pilot accumulator

## STEERING SYSTEM

- Load sensing system with flow amplification and steering priority

## TIRE & RIM

- 23.5-25/L3 bias tire
- Normal fender

## CHASSIS FRAME

- Spacious central articulation arrangement with conic bearing
- Articulation locking bar
- Tow hitch
- Rubber cushion articulation stops

## LINKAGE & ATTACHMENTS

- Z-bar linkage

## ELECTRIC SYSTEM

- Two front lights with high/low beam
- Two front headlights on top of cab
- Two rear headlight on top of cab
- Turn signals with flasher
- Batteries, free of maintenance
- Cigarette lighter, 24 V power outlet
- Electric horn
- Front and rear windshield wiper
- Electronic device compartment
- Back-up alarm
- Radio/player with USB port
- Reversing warning light, automatic

## GAUGE GROUP

- Engine coolant temperature
- Transmission oil temperature
- Fuel level
- Hour meter
- Voltage
- Brake oil pressure

## INDICATOR GROUP

- Intake air filter alert
- Battery charging
- Parking brake applied
- Machine emergent stop
- Power cut-off
- Engine servicing
- Turning lights
- Transmission oil pressure alarm
- Engine starter running
- Beam of front light

## CAB

- Certified FOPS (ISO 3449) and ROPS (ISO 3471) cab
- Seat - mechanical suspension with 3 inch seat belt
- 2-way adjustable steering column
- Large curved front glass
- Rubber cab mounts
- Cab fresh air filter
- One interior & dual exterior rear-view mirrors
- Air conditioner
- Lunch-box/cooler holder
- One beverage holder
- Cigarette lighter

## OTHERS

- Manual central lubrication

# OPTIONAL EQUIPMENT

## ENGINE

- Cold start aid

## AXLE

- ZF wet axle with limited slip differentials

## HYDRAULIC SYSTEM(AP3000 WET AXLE)

- Ride control
- Third valve and multipurpose lines
- Emergency steering system

## HYDRAULIC SYSTEM(LIUGONG DRY AXLE)

- Third valve and multipurpose lines

## TIRE & RIM

- See tires options
- Full fender
- Tire protective chain

## CAB

- Heated air suspension seat
- Heated external rear view mirrors
- Cab dust removal device
- Front windshield screen (must be mounted at factory)
- Rear-view camera display
- Sun visors
- Fire extinguisher
- Cab rear windshield defroster

## LINKAGE & ATTACHMENTS

- Quick coupler
- Additional counterweight
- High/extra-high linkage
- Bolt-on wear-resist blade and teeth
- Rock bucket
- Grapple with aligned or crossed teeth

- Fork
- Snow blade

## OTHERS

- Automatic central lubrication
- Weight scale (Electric load weigher)
- Hood protective guard
- License-plate bracket and light
- Rotating beacon
- Transmssion protective guard



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