

## WX22H

### Load Haul Dump – Diesel Hybrid General Specifications



Safety



Reliability



Productivity



Note: Indicative illustration only, machine design may vary.

#### Operating capacities, weights and dimensions

Bucket capacity*	11.2 m <sup>3</sup>
Static tipping loads	473 kN
Breakout force (tilt)	347 kN
Operating weight	59,091 kg

\*Standard bucket based on a material density of 2,000 kg/m<sup>3</sup>

#### Working ranges

Engine rated power	360 kW
Payload	22,000 kg

Bucket capacity: 10.0 m<sup>3</sup>, 12.2 m<sup>3</sup> and 13.8 m<sup>3</sup> bucket options available

**Power module**

<b>Diesel power options</b>	<b>Base</b>
MTU Detroit diesel engine Model	US Tier 4f Series 1300, 12.8 litre Six cylinders
Type	Four-cycle turbo charged aftercooled
Rated engine power	360 kW (483 hp) @ 1800 rpm

Emission Flex Package is available for areas where ultra-low sulphur fuel is not available, The EFP is without the catalytic converter and DEF. A diesel particulate filter is available as an option.

The independent power module mounting system, consisting of the engine coupled to the SR generator, is cradled within the rear frame by a three-point isolation system.

**Radiator/oil cooler module**  
 • Replaceable tube type, over-under split flow  
 • Thermostatically controlled, variable speed hydraulic motor-driven, radiator-mounted fan

**Exhaust system**  
 MTU Tier 4f exhaust after treatment catalyst converter and DEF.

**Control system-LINCS II**

CAN Based Vehicle Control Unit incorporating high speed monitoring and advanced diagnostics including integrated data logging and storage. LINCS II uses a dash mounted full color touch screen display as the operator interface. Out of range conditions will cause an audible alarm along with a message screen that is color coded to indicate severity. In addition, the touch screen display provides repair technicians with operational data and fault messages.

**LINCS II load weigh**  
 Displays real-time load data, cycle times, production rates and operational profile.  
 • Memory capable of retaining months of production information  
 • Smart Solutions remote monitoring connectivity available for additional diagnostics and productivity analysis  
 • Capable of interfacing with radio dispatch systems for on-site real-time monitoring

**Steering and hoisting system**

**Steering**  
 Steering function is controlled by a single joystick. Constant engine rpm assures full hydraulic steering response.

**Articulation angle** 46°

<b>Turning radius</b>	
Outside	7.64 m
Inside	3.21 m

**Hoist and bucket control**

Hoist and bucket control functions are incorporated into a single joystick control. The proportional electro-hydraulic controlled hoist and bucket system is independent of the steering system.

Standard/high lift cycle times:

Hoist	8.4 sec
Dump	2.0 sec
Float	4.0 sec
Total	14.4 sec

**Operator's cabin**

- Features**
- ISO ROPS/FOPS design, rubber mounted for comfort
  - Foot box for improved operator ergonomics
  - Door interlock sets park brakes, blocks steering movement once the machine is stationary and bucket and boom functions immediately
  - Door movement damper to control door movement
  - Adjustable air seat suspension with four (4) point harness

**Electrical propulsion system**

Switched Reluctance (SR) Technology Electrical Propulsion System  
 • Digital microprocessor controlled traction drive  
 • Switched Reluctance (SR) drive advantages include:  
 - No commutator, brushes or rotor windings on SR motors or generator  
 - SR KESS - Kinetic Energy Storage System  
 - Parts commonality - power conversion modules identical for motor, generator and SR KESS

**Travel speed**  
 Forward and reverse 0-27 km/h

**Generator**  
 • G40 SR Generator  
 • Switched Reluctance (SR)

**Traction motors**  
 • B9 SR motor (water cooled)

**Planetary gearing**  
 Model 29A  
 • In-line gear train mounted within the rim of the tire, transmitting power from the traction motor through the tire/rim assembly  
 • A four-stage planetary drive unit in each position  
 • Total reduction: 92.63:1

**Hydraulic system**

**Pumps (Maximum flow rate at 1800 rpm)**

Bucket and hoist	Piston	468 L/min
Fast hoist	Piston	171 L/min
Accessory	Piston	171 L/min
Steering	Piston	171 L/min
Accessory	Piston	171 L/min

**Valves**

Main	Two (2)	221 L/min
	Pump pressure	275 bar
Steering	One (1)	341 L/min
	Pump pressure	275 bar

**Cylinders**  
 Double acting, single-stage (diameter)

Hoist	230 mm
Bucket	254 mm
Steering	140 mm

**Braking system**

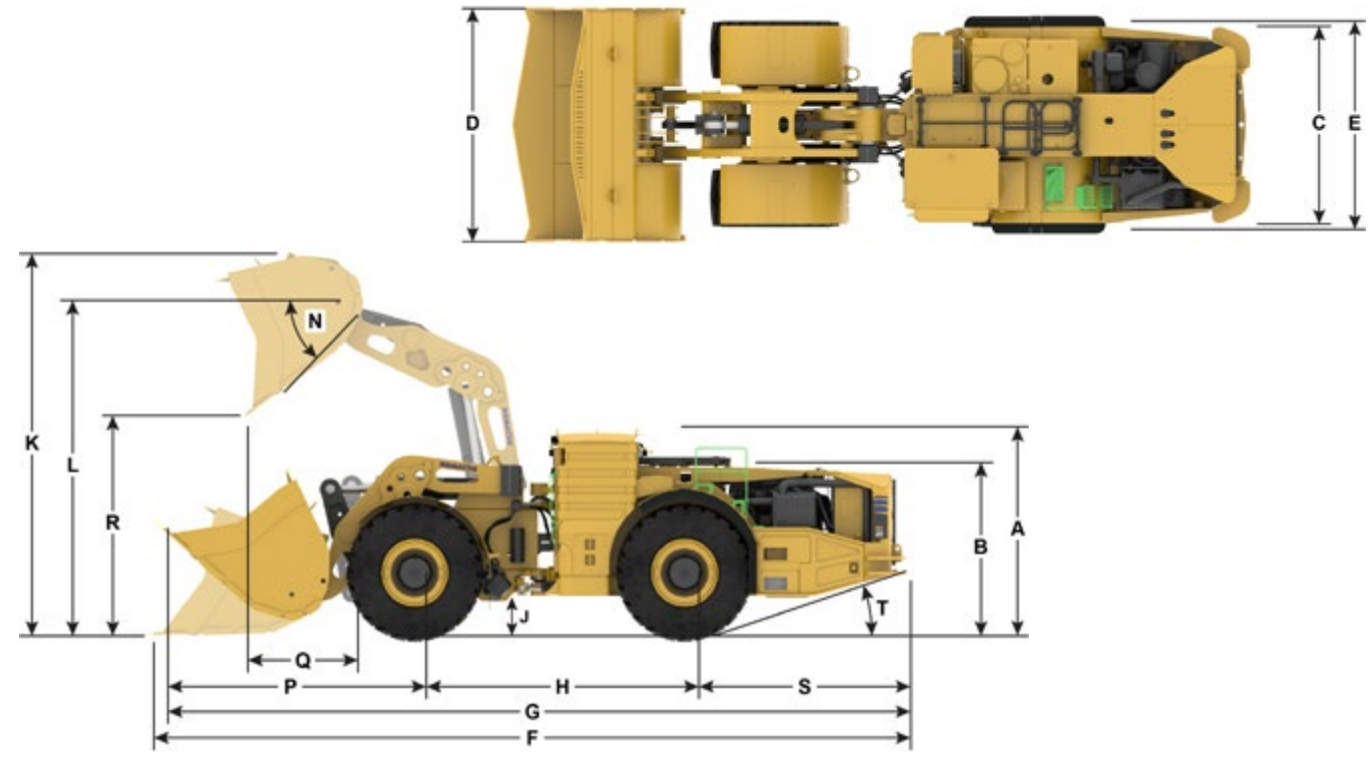
Braking system testing in accordance to ISO3450  
**Primary brake system**  
 Electric dynamic braking system is controlled from the speed control pedal and can bring the loader to a full stop without application of mechanical brakes.

**Secondary brake system**  
 Hydraulically modulated traction motor speed disk brakes  
 • Dual calipers on each front traction motor, single caliper on each rear traction motor  
 • Emergency fail to safe brakes in the event of hydraulic pressure loss. Spring Applied Hydraulic Release (SAHR)

**Parking brake system**  
 SAHR caliper brake on each traction motor

**24V electrical system**

- 200 amp alternator
- Modular IP67 wiring system
- Lockable, dual isolation switch system
- Separate, fully isolated auxiliary power supply for fire suppression and radio systems
- 16 x 50 watt LED driving and work lights



**Overall dimensions**

<b>A</b>	Height over cabin	3048 mm (3123 mm option)
<b>B</b>	Height over power unit	2515 mm
<b>C</b>	Vehicle width across tires	3200 mm
<b>D</b>	Width across bucket	3606 mm
<b>E</b>	Max. rear frame width	3023 mm
<b>H</b>	Wheelbase	4100 mm
<b>J</b>	Ground clearance	500 mm
<b>L</b>	Hinge pin height	4700 mm
<b>M</b>	Roll back angle	47°
<b>N</b>	Dump angle	46°
<b>S</b>	Wheel center to rear bumper	3300 mm
<b>T</b>	Departure angle	15°

**Air filtration**

**Primary**  
 Dual safety filters for engine air intake with Sy-Klone™ Dome precleaner.

**Fluid capacities**

Fuel	757 L
Hydraulic	473 L
SR converter cooling system	18.9 L
Engine cooling system	75.7 L
Engine oil	39 L
Planetaries (each)	7.6 L

**Structural**

Frames are fabricated from high strength, low-alloy steel with excellent weld characteristics and extreme low temperature properties. The front axle is an integral, fixed part of the front frame. The rear axle center oscillates eight degrees.

Unique forged ball and socket joints are utilized in multiple pivot locations (lift arms, rear axle, frame articulation, hoist cylinders). These joints are superior in absorbing and distributing multi-directional stresses. Features easily replaceable brass liners for long life and easy maintenance.

High strength castings are used in key areas of fabricated structures to reduce stress and improve structural life.

**Bucket data**

	Volume, nominal heaped - m³	10	11.2	12.2	13.8
<b>F</b>	Vehicle length Digging - mm	11410	11564	11727	11956
<b>G</b>	Vehicle length hauling - mm	11199	11308	11425	11592
<b>K</b>	Bucket height, fully raised, dumped - mm	5410	5410	5410	5410
<b>P</b>	Wheel center to bucket - carry - mm	3795	3904	4021	4188
<b>Q</b>	Tire to bucket dump - mm	1577	1681	1793	1946
<b>R</b>	Dump height - mm	2863	2753	2634	2469

**Standard features**

Tires 35/65 R33

\*as applications vary, local tire supplier should be consulted for optimal tire selection and availability

- Air conditioning/heater-defroster (filtered and pressurized)
- Air tank bleed system
- Adjustable automatic lift height cut off
- Automatic bucket leveling control
- Back-up alarm, audible
- Battery disconnect switch
- Lift arm and articulation locks
- Brake lights
- Central service
- Data analysis and viewing software
- Data logging - downloadable production and maintenance logs
- Door interlock on operators cabin
- Drawbar with tow points
- Electric horn
- Emergency stop buttons (cab and remote mounted)
- Fire extinguisher, manual, 20 lb (9.07 kg)
- FOPS - Falling Object Protection System
- Idle timer
- Interior lights
- Isolation monitor
- Joystick hoist and bucket control
- Joystick steering control
- Jump start
- Emergency steering
- LED working lights
- LINC'S II alarms
- LINC'S II load weigh and monitoring
- Operator seat (11-way adjustable)
- Overspeed alarm
- Parking brake
- Retractable four point over shoulder harness
- ROPS - Rollover Protection Structure
- Selectable throttle switch
- Starter disconnect switch
- Safety glass throughout
- Turn signals
- 12VDC power supply in cabin
- 12VDC power port (2)
- Windshield washer reservoir 9.8 L
- Windshield wiper and washer (all cab glass)
- Automatic lubrication system
- Manuals: operators, parts (Link One), maintenance and service
- Kinetic Energy Storage System (KESS)
- Integrated underside protection system
- Color coded and labelled lifting points

**Optional features**

- Beacon light kit
- Hood mounted hand rail kit
- Diesel particulate filter (EFP engines only)
- Fire detection and suppression system (automatic)
- Fire suppression system (manual)
- Fluid sampling kit
- PreVail remote health monitoring system
- Ride control system
- Tire pressure monitoring system
- Recovery hitch with automatic brake release
- Line of sight remote control
- Fast fuel

**Buckets**

10.0 m<sup>3</sup>, 11.0 m<sup>3</sup>, 12.2 m<sup>3</sup> and 13.8 m<sup>3</sup>

For actual bucket configuration and sizing, consult you local representative.

**Remote control/automation system**

- RCT Control Master - Line of sight remote control and teleremote control
- CAN interface between remote hardware and machine control
- Safety system/fail safe system inter-connectivity hard wired to RCT module (emergency stop, fire system, park brake)
- Functional safety to ISO 62001

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