



# 814

## Wheel Dozer

# Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

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# 814 Wheel Dozer Specifications

## Engine

Engine Model	Cat® C7.1	
<b>Emissions (Option 1)</b>	<b>U.S. EPA Tier 4 Final/ EU Stage V</b>	
Rated Speed	2,200 rpm	
Net Power (SAE J1349:2011)	186 kW	249 hp
Net Power (ISO 9249:2007)	186 kW	249 hp
Gross Power (SAE J1995:2014)	212 kW	284 hp
Engine Power (ISO 14396:2002)	205 kW	275 hp
Peak Torque (1,400 rpm)	1223 N·m	902 lbf-ft
Torque Rise	52%	
<b>Emissions (Option 2)</b>	<b>Brazil MAR-1, emitting equivalent to U.S. EPA Tier 3/ EU Stage IIIA</b>	
Rated Speed	2,200 rpm	
Net Power (SAE J1349:2011)	186 kW	249 hp
Net Power (ISO 9249:2007)	186 kW	249 hp
Gross Power (SAE J1995:2014)	213 kW	286 hp
Engine Power (ISO 14396:2002)	205 kW	275 hp
Peak Torque (1,400 rpm)	1016 N·m	749 lbf-ft
Torque Rise	26%	
Bore	105 mm	4.1 in
Stroke	135 mm	5.3 in
Displacement	7.01 L	427.8 in <sup>3</sup>
High Idle Speed	2,270 rpm	
Low Idle Speed	800 rpm	
Maximum Altitude without Derating	3000 m	9,842.5 ft

- Net power advertised is the power available at the engine flywheel when the engine is equipped with a fan, air cleaner, clean emissions module, and alternator.

## Operating Specifications – Wheel Dozer

Operating Weight (Tier 4 Final/Stage V)	22 011 kg	48,526 lb
Operating Weight (Tier 3/Stage IIIA equivalent)	21 721 kg	47,887 lb

## Transmission

Transmission Type	Cat planetary powershift	
Forward 1	5.9 km/h	3.7 mph
Forward 2	10.4 km/h	6.5 mph
Forward 3	18.1 km/h	11.2 mph
Forward 4	31.3 km/h	19.4 mph
Reverse 1	6.7 km/h	4.2 mph
Reverse 2	11.8 km/h	7.3 mph
Reverse 3	20.6 km/h	12.8 mph
Reverse 4	35.5 km/h	22.1 mph

## Hydraulic System Lift/Tilt – Wheel Dozer

Lift/Tilt System – Circuit	Pilot operated load sensing valve with EH	
Lift/Tilt System	Variable displacement piston	
Maximum Flow at 2,200 rpm	89 L/min	23.5 gal/min
Relief Valve Setting – Lift/Tilt	22 000 kPa	3,190 psi
Cylinders, Double Acting: Lift, Bore, Stroke	120 mm × 915 mm	4.7 in × 36.0 in
Cylinders, Double Acting: Left and Right Tilt, Bore, Stroke	101.6 mm × 234 mm	4.0 in × 9.2 in
Pilot System	Open center, fixed displacement gear	
Pilot Relief Valve Setting	21 000 kPa	3,046 psi

## Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Variable displacement piston	
Maximum Flow at 2,200 rpm	147 L/min	38.8 gal/min
Relief Valve Setting – Steering	27 600 kPa	4,003 psi
Total Steering Angle	72°	
Steering Cycle Time (high idle)	3.0 seconds	
Steering Cycle Time (low idle)	8.2 seconds	

## Service Refill Capacities

Fuel Tank	500 L	132.1 gal
Diesel Exhaust Fluid Tank	16 L	4.2 gal
Cooling Systems – Tier 4 Final/ Stage V	81 L	21.4 gal
Cooling Systems – Tier 3/Stage IIIA equivalent	73 L	19.3 gal
Engine Crankcase	20 L	5.3 gal
Transmission	50 L	13.2 gal
Differentials and Final Drives – Front	65 L	17.2 gal
Differentials and Final Drives – Rear	65 L	17.2 gal
Hydraulic System – Implement/ Steering	129 L	34.1 gal
Hydraulic Tank Only	75 L	19.8 gal
Oil Renewal System (ORS)	N/A	N/A

- All nonroad Tier 4 Final and Stage V diesel engines are required to use:– Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm for EPA and 10 ppm for EU (mg/kg) sulfur or less. Biodiesel blends up to B20 are acceptable when blended with 15 ppm (mg/kg) sulfur or less ULSD and when the biodiesel feedstock meets ASTM D7467 specifications.
  - Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, API CK-4, and/or ACEA E9 specifications are required.
  - Diesel exhaust fluid (DEF) that meets all requirements defined in ISO 22241-1:2006.

## Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.
- If equipped with R134a (Global Warming Potential = 1430), the system contains 1.9 kg of refrigerant which has a CO<sub>2</sub> equivalent of 2.717 metric tonnes.

## Axles

Front	Planetary – fixed
Rear	Planetary – oscillating
Oscillation Angle	±10°

## Brakes

Service Brakes	Single Disc Wet (Enclosed) 4 WHL
Parking Brake	Drum and Shoe, Spring Applied, Hydraulic Released

## Sound Performance

### Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	111 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	70 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)*

### Tier 3/Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	70 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)*

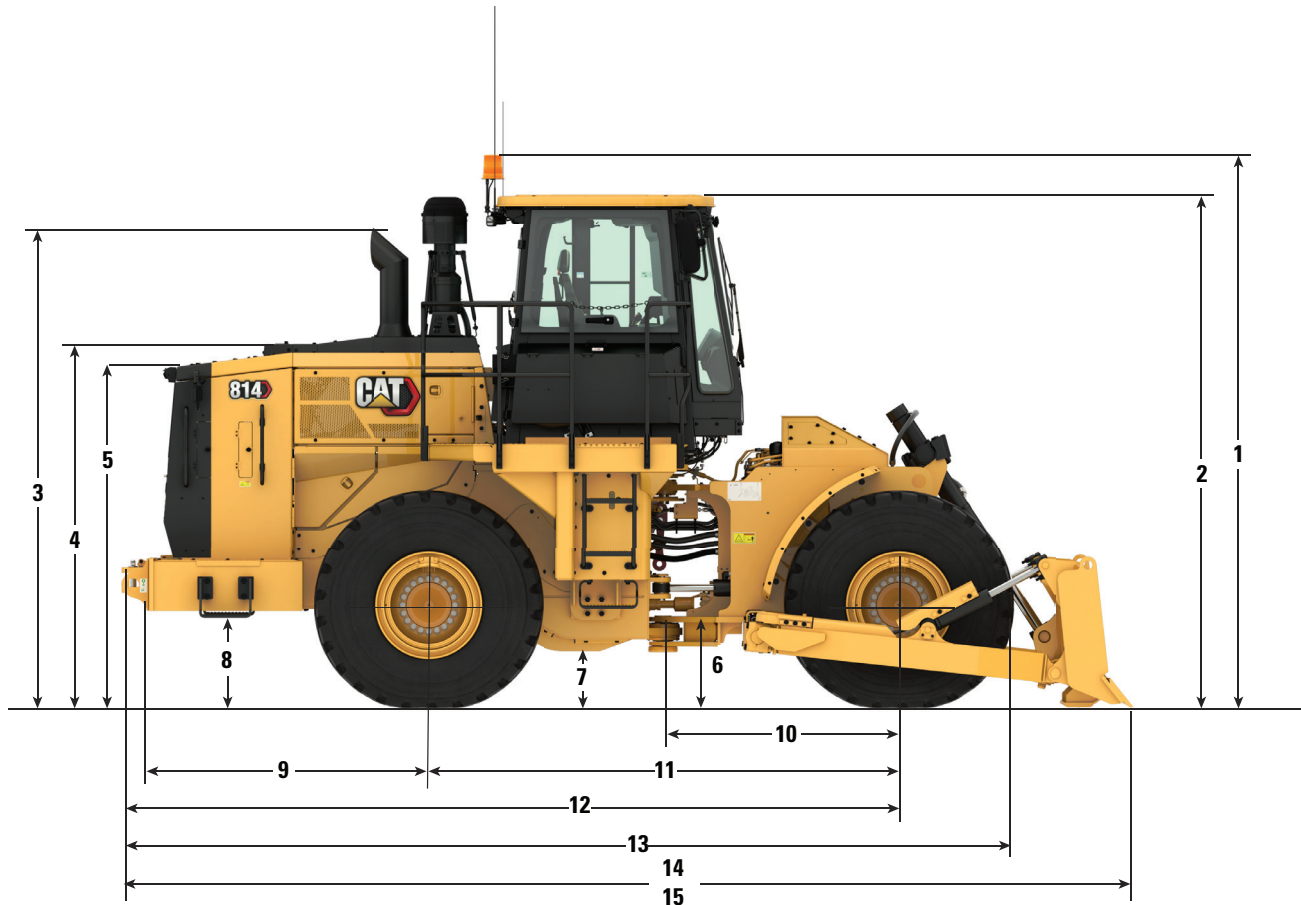
\* Sound suppression equipped

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.

# 814 Wheel Dozer Specifications

## Dimensions

All dimensions are approximate.



<b>1</b>	Height to Top of Beacon	3981 mm	13.1 ft
<b>2</b>	Height to Top of Cab Roof	3694 mm	12.1 ft
<b>3</b>	Height to Top of Exhaust Pipe	3442 mm	11.3 ft
<b>4</b>	Height to Top of Hood	2663 mm	8.7 ft
<b>5</b>	Height to Top of Radiator Guard	2453 mm	8.0 ft
<b>6</b>	Ground Clearance to Hitch	413 mm	1.4 ft
<b>7</b>	Ground Clearance to Transmission Guard	422 mm	1.4 ft
<b>8</b>	Ground Clearance to Bottom of Bumper	712 mm	2.3 ft
<b>9</b>	Centerline of Rear Axle to Bumper	1990 mm	6.5 ft
<b>10</b>	Centerline of Front Axle to Hitch	1675 mm	5.5 ft
<b>11</b>	Wheelbase	3350 mm	11.0 ft
<b>12</b>	Width Over Platform	3145 mm	10.3 ft
<b>13</b>	Overall Length to Front of Tire	6356 mm	21.0 ft
<b>14</b>	Overall Machine Length with Straight Blade	7190 mm	23.6 ft
<b>15</b>	Overall Machine Length with Coal Blade	7784 mm	25.5 ft

# 814 Wheel Dozer Specifications

## Blade Specifications

Blade Type	Capacity	Overall Width	Height	Digging Depth	Ground Clearance	Maximum Tilt	Turning Radius – Outside Corner of Blade	Turning Radius – Inside Corner of Blade	Weight	Total Operating Weight
Straight	2.84 m <sup>3</sup>	3656 mm	1001 mm	493 mm	904 mm	802 mm	7166 mm	3550 mm	1396 kg	22 011 kg
	3.72 yd <sup>3</sup>	12 ft	3.3 ft	1.6 ft	3.0 ft	2.6 ft	23.5 ft	11.6 ft	3,000 lb	48,526 lb
Coal	10.55 m <sup>3</sup>	4321 mm	1470 mm	488 mm	932 mm	945 mm	7647 mm	3420 mm	2062 kg	22 678 kg
	13.8 yd <sup>3</sup>	14.2 ft	4.8 ft	1.6 ft	3.1 ft	3.1 ft	25.1 ft	11.2 ft	4,429 lb	49,996 lb

# 814 Wheel Dozer Standard and Optional Equipment

## Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat® dealer for details.

	Standard	Optional		Standard	Optional
<b>ELECTRICAL</b>			<b>OPERATOR ENVIRONMENT (CONTINUED)</b>		
Alternator, 150 amp	✓		Vital Information Management System (VIMS™): graphical information display, external data port, customizable operator profiles, event indicator light on rear grill	✓	
Batteries, maintenance-free	✓		Wet-arm wipers/washers (front and rear): intermittent front and rear wipers	✓	
Electrical system, 24V	✓		<b>POWERTRAIN</b>		
Lights, directional (rear)	✓		Advanced Productivity Electronic Control System (APECS)	✓	
Lighting system, (front and rear)	✓		Air-to-air aftercooler	✓	
Lighting system, LED		✓	Brakes, full hydraulic, enclosed, wet multiple disc service brakes	✓	
Starter, electric	✓		Cat Clean Emission Module (Tier 4 Final/Stage V only)	✓	
<b>OPERATOR ENVIRONMENT</b>			Electro-hydraulic parking brake	✓	
Air conditioner	✓		Electronic Clutch Pressure Control (ECPC)	✓	
Cab, sound-suppressed pressurized	✓		Engine, Cat C7.1 configured for two emissions options: Tier 4 Final/Stage V, or emitting equivalent to U.S. EPA Tier 3/ EU Stage IIIA	✓	
Cab door, sliding window (LH)	✓		Engine driven cooling fan – suction	✓	
Coat and hard hat hooks	✓		Fuel priming pump (electric)	✓	
Fingertip shifting controls	✓		Fuel-to-air cooler	✓	
Flip-up armrest	✓		Heater, engine coolant, 120V		✓
Heater and defroster	✓		Heater, engine coolant, 240V		✓
Horn, electric	✓		Muffler (under hood) (Tier 3/Stage IIIA equivalent)	✓	
Electro-hydraulic tilt and lift controls (seat mounted)	✓		No-spin rear axle		✓
Implement hydraulic lockout	✓		Radiator, unit core	✓	
Instrumentation, gauges: diesel exhaust fluid (DEF) level (U.S. EPA Tier 4 Final/EU Stage V only), engine coolant temperature, fuel level, hydraulic oil temperature, speedometer/tachometer, torque converter temperature	✓		Throttle lock	✓	
Instrumentation, warning indicators: action alert system – three categories, brake oil pressure, electrical system – low voltage, engine failure malfunction alert and action lamp, parking brake status	✓		Transmission, planetary, with 4F/4R speed range control	✓	
Internal four-post rollover protective structure/falling objects protective structure (ROPS/FOPS)	✓		<b>SAFETY</b>		
Light, cab, dome	✓		Alarm, back-up	✓	
Lunchbox and beverage holders	✓		Lights, warning switched (LED strobe)	✓	
Power port for mobile phone or laptop connection (12V)	✓		Camera, rear vision	✓	
Radio, AM/FM/AUX/USB/Bluetooth®		✓	Cat Detect: object detection (ready)	✓	
Radio ready for entertainment: antenna, speakers, converter (12V, 10-15 amp)	✓		Mirror, internal (panoramic)	✓	
Seat, Premium plus containing forced air heating and cooling, two-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness adjustment, dynamic end dampening, and leather finish	✓		Mirrors, rearview (externally mounted)	✓	
Cab glass, laminated and tinted, rubber mounted	✓		Seat belt with minder, retractable, 76 mm (3 in) wide	✓	
Sun visor, front	✓		Steering and Transmission Integrated Control (STIC™) system with lockout	✓	
Transmission gear (indicator)	✓		Emergency exit	✓	

# 814 Wheel Dozer Standard and Optional Equipment

## Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional		Standard	Optional
<b>SERVICE</b>			<b>EFFICIENCY</b>		
Engine precleaner	✓		Steering, load sensing	✓	
Doors, service access (locking)	✓		Torque converter	✓	
Dual engine precleaner		✓	<b>SOUND</b>		
Ecology drains for engine, radiator, transmission, hydraulic tank	✓		Sound suppression (required for Brazil)		✓
Engine, crankcase, 500 hour interval with CJ-4 oil	✓		<b>OTHER</b>		
Fast fill fuel		✓	Blade (straight)		✓
Fire suppression ready	✓		Counterweight (front)		✓
Ground level lockable battery disconnect switch	✓		Fuel tank, 500 L (132.1 gal)	✓	
Auxiliary start receptacle	✓		Guards, crankcase and powertrain	✓	
Ground level engine shutdown	✓		Guard, driveshaft	✓	
Oil change system, high speed	✓		Hitch, drawbar with pin	✓	
Oil sampling valves	✓		Hoses, Cat XT™	✓	
Total hydraulic filtration system	✓		Hydraulic, engine, and transmission oil coolers	✓	
<b>COLD WEATHER</b>			Vandalism protection caplocks	✓	
Antifreeze, -50° C (-58° F)		✓	Venturi stack	✓	
Antifreeze, premixed 50% concentration extended life (-34° C/-29° F)	✓				
Starting aid (ether)	✓				
Mirrors, heated		✓			

# 814 Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit <https://www.caterpillar.com/en/company/sustainability>.

## Engine

- The Cat® C7.1 engine is available in configurations that meet U.S. EPA Tier 4 Final, EU Stage V, or Brazil MAR-1, emitting equivalent to U.S. EPA Tier 3/EU Stage IIIA.
- Cat U.S. EPA Tier 4 Final/EU Stage V diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:
  - ✓ 20% biodiesel FAME (fatty acid methyl ester)\*
  - ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels
- Cat engines emitting equivalent to U.S. EPA Tier 3/EU Stage IIIA, are compatible with diesel fuel blended with the following lower-carbon intensity fuels up to:
  - ✓ 20% biodiesel FAME (fatty acid methyl ester)\*\*
  - ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or “Caterpillar Machine Fluids Recommendations” (SEBU6250) for details.

*\*Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel.*

*\*\*For use of blends higher than 20% biodiesel, consult your Cat dealer.*

## Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.
- If equipped with R134a (Global Warming Potential = 1430), the system contains 1.9 kg (3.1 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 2.717 metric tonnes.

## Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
  - Barium < 0.01%
  - Cadmium < 0.01%
  - Chromium < 0.01%
  - Lead < 0.01%

## Sound Performance

### Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	111 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	70 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)*

### Tier 3/Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	70 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)*

\* Sound suppression equipped

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.

## Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO™ Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

## Features and Technology

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
  - Automatic engine and electrical system shutdown controls conserve fuel by reducing unnecessary idling
  - Throttle lock reduces fuel burn further by maintaining constant speed and also reduces operator fatigue
  - Advanced Productivity Electronic Control System (APECS) transmission controls delivers greater momentum on grades and saves fuel by carrying that momentum through the shift points
  - Extended maintenance intervals reduce fluid and filter consumption
  - Cat Clean Emissions Module includes Diesel Particulate Filter (DPF), Diesel Oxidation Catalyst (DOC), and Selective Catalytic Reduction (SCR) technologies to reduce the engine's emissions





For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com).

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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AEXQ2619-01 (11-2024)  
Replaces AEXQ2619-00  
Build Number: 11A  
(Global, Excluding EU  
and Türkiye)

