



# 815

## Soil Compactor

# Technical Specifications

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

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# 815 Soil Compactor Specifications

## Engine

Engine Model	Cat® C7.1	
Emissions (Option 1)	<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%	

- Net power available at flywheel when the engine is equipped with fan, air cleaner, aftertreatment, and alternator with engine speed at 2,200 rpm.

Emissions (Option 2)	<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%	

- Net power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator with engine speed at 2,200 rpm.

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

## Operating Specifications

Operating Weight (Tier 4 Final/Stage V)	22 522 kg	49,652 lb
Operating Weight (Tier 3/Stage IIIA equivalent)	22 232 kg	49,013 lb

## Transmission

Transmission Type	Cat Planetary Power Shift	
Forward – First	6.3 km/h	3.9 mph
Forward – Second	10.8 km/h	6.7 mph
Forward – Third	18.2 km/h	11.3 mph
Reverse – First	7.2 km/h	4.5 mph
Reverse – Second	12.4 km/h	7.7 mph
Reverse – Third	18.4 km/h	11.4 mph

## Hydraulic System Lift/Tilt

Lift/Tilt System – Circuit	Pilot Operated Load Sensing Valve with EH	
Lift/Tilt System	Variable Displacement Piston	
Max 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	101.6 mm × 627 mm	4.0 in × 24.7 in
Cylinders, Double Acting: Left and Right Tilt, Bore, Stroke	101.6 mm × 167 mm	4.0 in × 6.6 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	
Max Flow @ 2,200 rpm	147 L/min	38.8 gal/min
Relief Valve Setting - Steering	27 600 kPa	4,003 psi
Total Steering Angle	84°	
Steering Cycle Time (high idle)	3.0 sec	
Steering Cycle Time (low idle)	8.2 sec	

## 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 - Tier3/Stage IIIA Equivalent	73 L	19.3 gal
Engine Crankcase	20 L	5.3 gal
Transmission	56 L	14.8 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	175 L	46.2 gal
Hydraulic Tank Only	75 L	19.8 gal

- Cat 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

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).

\*\*Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.

- 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.

## Axles

Front	Planetary – Fixed
Rear	Planetary – Oscillating
Oscillation Angle	±10°

## Brakes

Service Brakes	Single Disc Wet (Enclosed) 2 WHL
Parking Brake	Drum and Shoe, Spring Applied, Hydraulic Released

## 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 (4.2 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 2.717 metric tonnes (2.994 tons).

## Sound Performance

### Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)***
Operator Sound Pressure Level (ISO 6396:2008)	70 dB(A)*,***
Machine Sound Power Level (ISO 6395:2008)	107 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)***

\*For machines in European Union countries and in countries that adopt the “EU Directives” and “UK Directives”

\*\*European Union Directive “2000/14/EC” as amended by “2005/88/EC” and UK Noise Regulation 2001 No. 1701

\*\*\*Sound suppression equipped

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 100% of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 100% of the 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.

## Blades

### Straight Blade

Capacity	2.06 m <sup>3</sup>	2.69 yd <sup>3</sup>
Overall Width	3761 mm	12.3 ft
Height	860 mm	2.8 ft
Digging Depth	222 mm	0.7 ft
Ground Clearance	802 mm	2.6 ft
Maximum Tilt	346 mm	1.1 ft
Turning Radius - Outside Corner of Blade	6437 mm	21.1 ft
Turning Radius - Inside Face of Push Arm	2520 mm	8.3 ft
Weight	800 kg	1,764 lb
Total Operating Weight	22 522 kg	49,652 lb

## Wheels

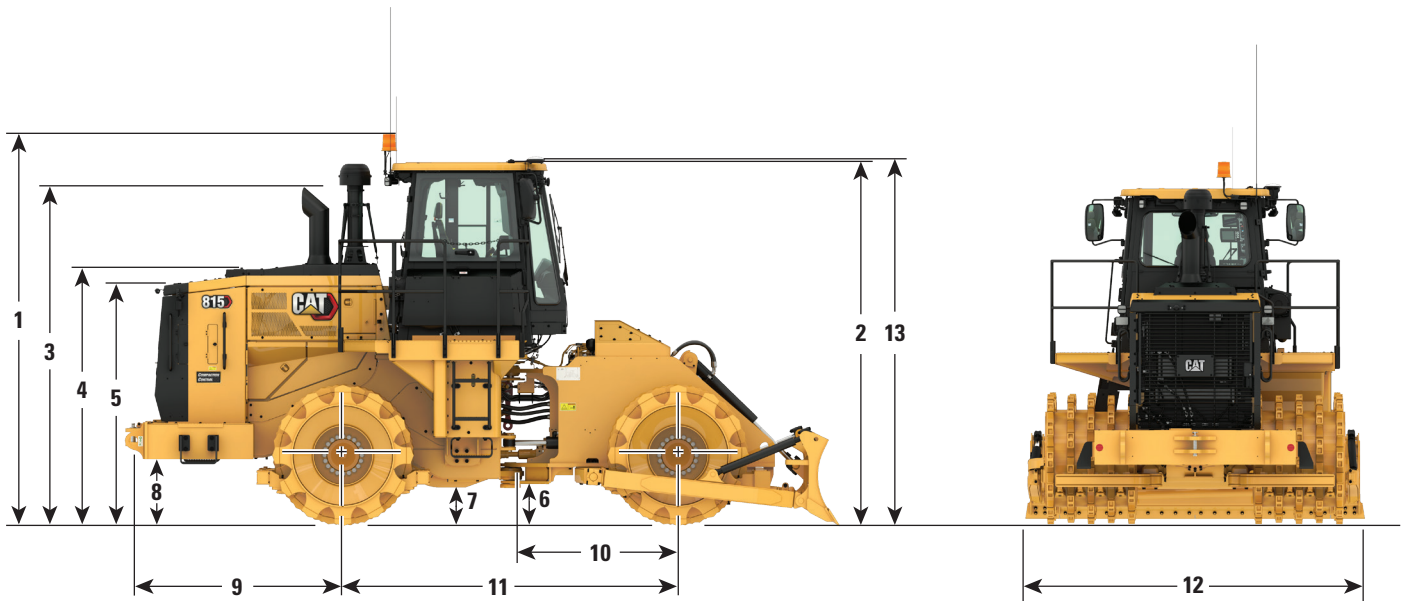
### Tamping Foot

Weight (Group)	4409 kg	9,720 lb
Outside Diameter	1412 mm	55.6 in
Drum Diameter	1029 mm	40.5 in
Drum Width	991 mm	39.0 in
Feet per Row		12
Feet per Wheel		60
Replaceable		Weld On
Width Over Drums	3243 mm	127.7 in
Width Between Drums	1261 mm	49.6 in
Tip Height	192 mm	7.5 in

# 815 Soil Compactor Specifications

## Dimensions

All dimensions are approximate.



<b>1</b>	Height to Top of Beacon	3933 mm	12.9 ft
<b>2</b>	Height to Top of Cab Roof	3650 mm	12.0 ft
<b>3</b>	Height to Top of Exhaust Pipe	3394 mm	11.1 ft
<b>4</b>	Height to Top of Hood	2616 mm	8.6 ft
<b>5</b>	Height to Top of Radiator Guard	2405 mm	7.9 ft
<b>6</b>	Ground Clearance to Hitch	365 mm	1.2 ft
<b>7</b>	Ground Clearance to Transmission Guard	375 mm	1.2 ft
<b>8</b>	Ground Clearance to Bottom of Bumper	665 mm	2.2 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	3140 mm	10.3 ft
<b>13</b>	Height to Top of GPS Antenna	3701 mm	12.1 ft

# 815 Soil Compactor 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>POWERTRAIN</b>			<b>OPERATOR ENVIRONMENT (CONTINUED)</b>		
Advanced Productivity Electronic Control System (APECS)	✓		Cab door, sliding window (LH)	✓	
Air-to-air aftercooler	✓		Cab glass, laminated and tinted, rubber mounted	✓	
Axles – standard open front and rear	✓		Camera, rear vision	✓	
Axles – open front no-spin rear		✓	Cat Compaction Control (ready)	✓	
Brakes, full hydraulic, enclosed, wet multiple disc service brakes	✓		Cat Compact RTK Mapping (available through SITECH only)		✓
Cat Clean Emission Module (U.S. EPA Tier 4 Final/EU Stage V only)	✓		Cat Detect: object detection (ready)	✓	
Electro-hydraulic parking brake	✓		Coat and hard hat hooks	✓	
Electronic Clutch Pressure Control (ECPC)	✓		Electro-hydraulic controls (seat mounted)	✓	
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	✓		Fingertip shifting controls	✓	
Engine driven cooling fan – suction	✓		Flip-up armrest	✓	
Fuel priming pump (electric)	✓		Heater and defroster	✓	
Fuel-to-air cooler	✓		Horn, electric	✓	
Ground level engine shut down	✓		Implement hydraulic lockout	✓	
Heater, engine coolant, 120V		✓	Instrumentation, gauges: Diesel exhaust fluid (DEF) level (Tier 4 Final/Stage V only), engine coolant temperature, fuel level, hydraulic oil temperature, speedometer/tachometer, torque converter temperature	✓	
Heater, engine coolant, 240V		✓	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	✓	
Muffler under hood (Tier 3/Stage IIIA equivalent only)	✓		Internal four-post rollover protective structure/falling objects protective structure (ROPS/FOPS)	✓	
Radiator, unit core	✓		Light, cab, dome	✓	
Starting aid (ether)	✓		Lunchbox and beverage holders	✓	
Throttle lock	✓		Mirrors, standard or heated, rearview (externally mounted)		✓
Torque converter	✓		Mirror, internal (panoramic)	✓	
Transmission, planetary, with 3F/3R speed range control	✓		Precleaner (cab) – powered	✓	
<b>ELECTRICAL</b>			Premium plus seat containing forced air heating and cooling, 2-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness adjustment, dynamic end dampening, and leather finish	✓	
Alarm, back-up	✓		Radio, AM/FM/Aux/USB/Bluetooth®		✓
Alternator, 150 amp	✓		Radio, CB (ready)		✓
Auxiliary start receptacle	✓		Radio ready for entertainment: antenna, speakers, converter (12V, 10-15 amp)	✓	
Batteries, maintenance-free	✓		Seat belt with minder, retractable, 76 mm (3 in) wide	✓	
Electrical system, 24V	✓		Steering and Transmission Integrated Control (STIC™) system with lockout	✓	
Ground level lockable battery disconnect switch	✓		Sun visor, front	✓	
Lights, directional (rear)	✓		Transmission gear (indicator)	✓	
Lights, standard or LED		✓	<b>OPERATOR ENVIRONMENT</b>		
Lights, warning switched (LED strobe)	✓		12V power port for mobile phone or laptop connection	✓	
Lighting system (front and rear)	✓		Air conditioner	✓	
Starter, electric	✓		Cab, sound-suppressed pressurized	✓	

# 815 Soil Compactor 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>OPERATOR ENVIRONMENT (CONTINUED)</b>			<b>OTHER STANDARD EQUIPMENT</b>		
Vital Information Management System (VIMS™): graphical information display, external data port, customizable operator profiles, event indicator light on rear grill	✓		Steering, load sensing	✓	
Wet-arm wipers/washers (front and rear): intermittent wipers (front and rear)	✓		Total hydraulic filtration system	✓	
<b>GUARDS</b>			Vandalism protection caplocks	✓	
Guards, crankcase and powertrain	✓		Venturi stack	✓	
Guard, driveshaft	✓		<b>TECHNOLOGY PRODUCTS</b>		
<b>FLUIDS</b>			Compaction control, basic		✓
Antifreeze, -50° C (-58° F)		✓	Product Link™ – cellular, satellite		✓
Antifreeze, premixed 50% concentration extended life (-34° C/-29° F)	✓		<b>OTHER ATTACHMENTS</b>		
<b>OTHER STANDARD EQUIPMENT</b>			Sound suppression – low (required for Brazil)		✓
Doors, service access (locking)	✓		Sound suppression – EU (required for EU)		✓
Ecology drains for engine, radiator, transmission, hydraulic tank	✓		<b>MISCELLANEOUS</b>		
Engine, crankcase, 500 hour interval with CJ-4 oil	✓		CE/UKCA Certification (standard where regulations require it)		✓
Emergency egress	✓		Plate – year of manufacture		✓
Fire suppression ready	✓		<b>SPECIAL ARRANGEMENTS</b>		
Fuel tank, 500 L (132.1 gal)	✓		Engine precleaners – turbine	✓	
Hitch, drawbar with pin	✓		Engine precleaners – dual stage		✓
Hoses, Cat XT™	✓		<b>FUEL SYSTEMS</b>		
Hydraulic, engine, and transmission oil coolers	✓		Fuel tank – non-fast	✓	
Oil change system, high speed	✓		Fuel tank – fast fill		✓
Oil sampling valves	✓		<b>WHEELS AND CLEANER BARS</b>		
			Standard tips	✓	
			Abrasive tips		✓
			Wheels, tamping foot	✓	
			<b>BLADES</b>		
			Manual tilt – straight blade		✓
			Hydraulic tilt – straight blade		✓

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 and EU Stage V emission standards or Brazil MAR-1, emitting equivalent to U.S. EPA Tier 3/EU Stage IIIA.
- Cat U.S. EPA Tier 4 Final and 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.*

*\*\*\*Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.*

## 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 (4.2 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 2.717 metric tonnes (2.994 tons).

## 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)	112 dB(A)
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)***
Operator Sound Pressure Level (ISO 6396:2008)	70 dB(A)*,***
Machine Sound Power Level (ISO 6395:2008)	107 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)***

\*For machines in European Union countries and in countries that adopt the “EU Directives” and “UK Directives”

\*\*European Union Directive “2000/14/EC” as amended by “2005/88/EC” and UK Noise Regulation 2001 No. 1701

\*\*\*Sound suppression equipped

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 100% of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 100% of the 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 deliver 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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AEXQ2937-02 (11-2024)  
Replaces AEXQ2937-01  
Build Number: 11A  
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