



312 GC

Hydraulic Excavator

Technical Specifications

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

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312 GC Hydraulic Excavator Specifications

Engine

Engine Model	Cat® C3.6	
Net Power		
ISO 9249	71 kW	95 hp
Engine Power		
ISO 14396	74 kW	100 hp
Bore	98 mm	4 in
Stroke	120 mm	5 in
Displacement	3.6 L	220 in ³
Biodiesel Capability	Up to B20 ⁽¹⁾	

- Meets China Nonroad Stage IV emissions standards.
- No engine power derating required below 3000 m (9,840 ft) altitude.
- Advertised power is tested per the specified standard in effect at the time of manufacture.
- Net power advertised is the power available at the flywheel when engine is equipped with fan, air cleaner, exhaust system and alternator.
- Rating at 2,200 rpm.

⁽¹⁾Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) and are compatible* with 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.

* While Caterpillar engines are compatible with these alternative fuels, some regions may not allow their use.

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

*** Engines with no aftertreatment devices are compatible with higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).

Swing Mechanism

Swing Speed	11.5 rpm	
Maximum Swing Torque	43 kN·m	31,641 lbf·ft

Weights

Operating Weight	11 600 kg	25,700 lb
• Short undercarriage, Reach boom, R2.25 (7'5") stick, Utility Duty (UD) 0.53 m³ (0.69 yd³) bucket, 500 mm (20") triple grouser shoes, 1800 kg (3,970 lb) counterweight, and High Pressure (HP)/Auxiliary (AUX) Lines.		

Track

Track Shoes Width	500 mm	20 in
Number of Shoes (each side)	41	
Number of Track Rollers (each side)	6	
Number of Carrier Rollers (each side)	1	

Drive

Gradeability	35°/70%	
Maximum Travel Speed	5.4 km/h	3.4 mph
Maximum Drawbar Pull	118 kN	26,505 lbf

Hydraulic System

Main System – Maximum Flow – Implement	225 L/min	59 gal/min
Maximum Pressure – Equipment – Normal	35 000 kPa	5,075 psi
Maximum Pressure – Travel	35 000 kPa	5,075 psi
Maximum Pressure – Swing	25 900 kPa	3,756 psi
Boom Cylinder – Bore	95 mm	4 in
Boom Cylinder – Stroke	1002 mm	39 in
Stick Cylinder – Bore	105 mm	4 in
Stick Cylinder – Stroke	1194 mm	47 in
Bucket Cylinder – Bore	90 mm	4 in
Bucket Cylinder – Stroke	939 mm	37 in

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Service Refill Capacities

Fuel Tank	237 L	62.6 gal
Cooling System	11 L	2.9 gal
Engine Oil	11 L	2.9 gal
Final Drive (each)	3 L	0.8 gal
Hydraulic System (including tank)	145 L	38.3 gal
Hydraulic Tank	77 L	20.3 gal

Standards

Brakes	ISO 10265:2008
Cab/Operator Protective Guards (OPG) (optional)	ISO 10262:1998 Level II

Sound Performance

GB/T 25614-2010 (external)	101 dB(A)
GB/T 25615-2010 (inside cab)	70 dB(A)

- External Sound – The spectator sound power level represents the Guaranteed Value per GB/T 16710-2010, when properly equipped, and is measured according to the test procedures and conditions specified in GB/T 25614-2010. The measurements were taken at 70% of the maximum engine cooling fan speed.
- Internal Sound – The operator sound pressure level is measured according to the test procedures and conditions specified in GB/T 25615-2010 for a cab offered by Caterpillar, when properly installed and maintained and tested with the door and windows closed. The measurements were taken at 70% of the maximum engine cooling fan speed.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained for doors/windows open) for extended periods or in noisy environment(s).

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 0.85 kg (1.9 lb) of refrigerant which has a CO₂ equivalent of 1.216 metric tonnes (1.340 tons).

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Operating Weights and Ground Pressures

Base Machine Configurations	500 mm (20") Triple Grouser Shoes	
	Weight kg (lb)	Ground Pressure kPa (psi)
Base Frame with Track Rollers and Carrier Rollers		
1800 kg (3,970 lb) Counterweight and Short Undercarriage Base Machine		
Reach Boom + R2.25 m (7'5") Stick + 0.53 m ³ (0.69 yd ³) UD Bucket, Cab, AUX line	11 600 (25,700)	40.5 (5.9)

All operating weights include a 90% fuel tank with 75 kg (165 lb) operator.

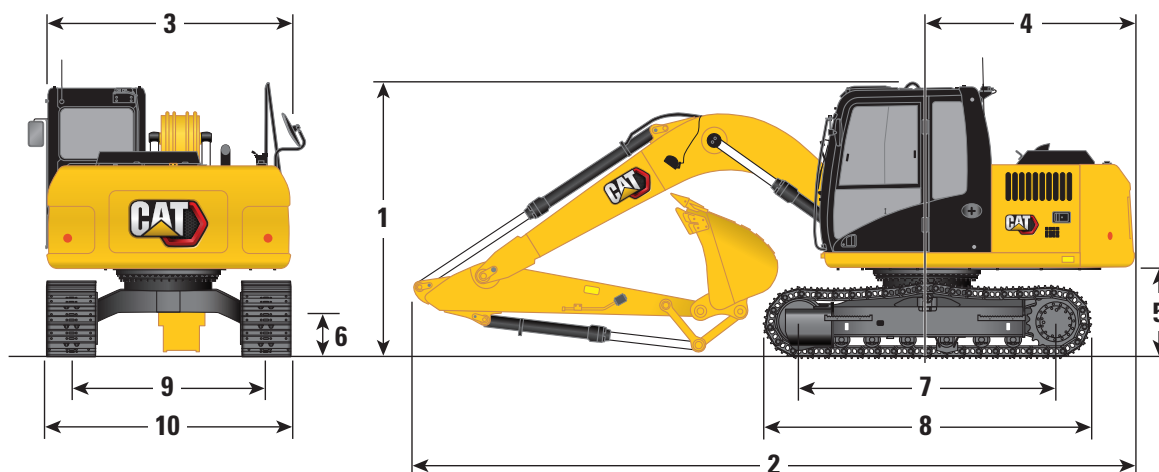
Major Component Weights

	kg	lb
Base Machine (with upper frame, short undercarriage, counterweight – does not include boom, stick, bucket, stick cylinder, bucket cylinder, tracks, 90% fuel tank and 75 kg [165 lb] operator)	7910	17,400
Track Shoes:		
500 mm (20") Width, 3320 mm (10'11") Triple Grouser Track Shoes	1370	3,020
Two Boom Cylinders	210	460
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	260	570
Counterweight:		
1800 kg (3,970 lb) Counterweight	1800	3,970
Swing Frame	1210	2,670
Undercarriage (base frame with track rollers and carrier rollers)	2440	5,380
Booms (including lines, pins, stick cylinder):		
Reach Boom 4.3 m (14'1")	950	2,090
Reach Boom 4.3 m (14'1") with HP/AUX Lines	990	2,180
Sticks (including lines, pins, bucket cylinder, bucket linkage):		
Reach Stick 2.25 m (7'5")	520	1,150
Reach Stick 2.25 m (7'5") with HP/AUX Lines	550	1,210
Bucket (without linkage, with tips and side cutters):		
0.53 m ³ (0.69 yd ³) UD	410	900

312 GC Hydraulic Excavator Specifications

Dimensions

All dimensions are approximate and may vary depending on bucket selection.



Boom Option

Reach Boom
4.3 m (14'1")

Stick Option

Reach Stick
2.25 m (7'5")

1 Machine Height

Top of Cab Height	2780 mm	9'1"
Handrail Height	2820 mm	9'3"
With Boom/Stick/Bucket Installed	2850 mm	9'4"
With Boom/Stick Installed	2720 mm	8'11"
With Boom Installed	2190 mm	7'2"

2 Machine Length

With Boom/Stick/Bucket Installed	7360 mm	24'2"
With Boom/Stick Installed	7360 mm	24'2"
With Boom Installed	6460 mm	21'2"

3 Upper Frame Width

2490 mm 8'2"

4 Tail Swing Radius

2200 mm 7'3"

5 Counterweight Clearance

890 mm 2'11"

6 Ground Clearance

430 mm 1'4"

7 Track Length – Length to Center of Rollers

2610 mm 8'7"

8 Track Length – Overall Track Length

3310 mm 10'10"

9 Track Gauge

1990 mm 6'6"

10 Undercarriage Width – 500 mm (20") Shoes

2490 mm 8'2"

Bucket Type

UD UD

Bucket Capacity

0.53 m³ 0.69 yd³

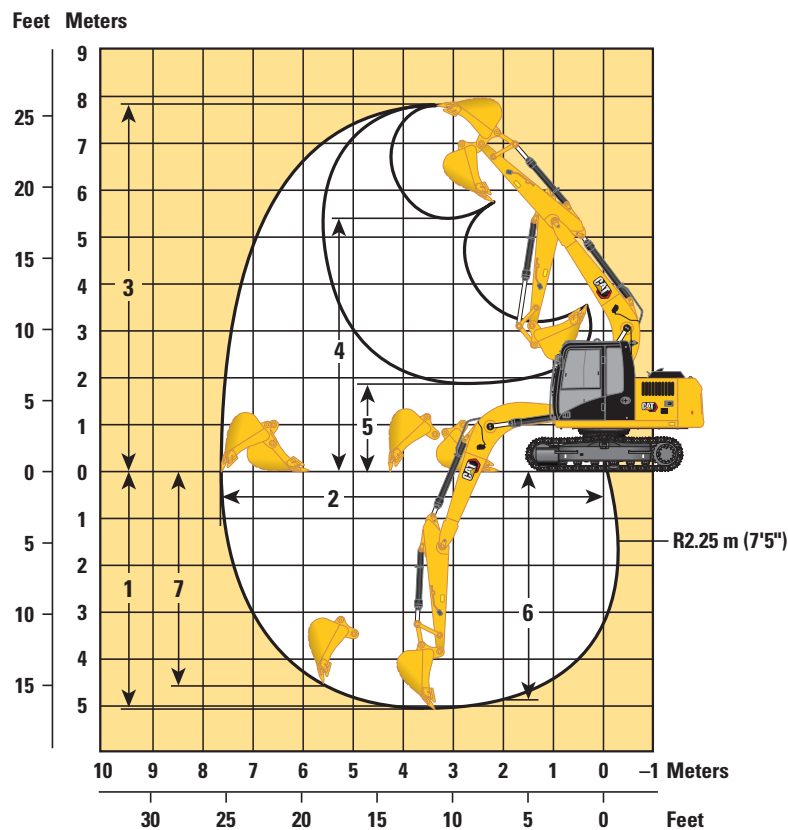
Bucket Tip Radius

900 mm 2'11"

312 GC Hydraulic Excavator Specifications

Working Ranges and Forces

All dimensions are approximate and may vary depending on bucket selection.



Boom Option		Reach Boom 4.3 m (15'1")
Stick Option		Reach Stick 2.25 m (7'5")
1 Maximum Digging Depth	5080 mm	16'8"
2 Maximum Reach at Ground Level	7600 mm	24'11"
3 Maximum Cutting Height	7850 mm	25'9"
4 Maximum Loading Height	5410 mm	17'9"
5 Minimum Loading Height	1840 mm	6'0"
6 Maximum Depth Cut for 2440 mm (8'10") Level Bottom	4850 mm	15'11"
7 Maximum Vertical Wall Digging Depth	4560 mm	15'0"
Minimum Working Equipment Radius	2450 mm	8'0"
Bucket Digging Force (ISO)	86 kN	19,310 lbf
Stick Digging Force (ISO)	62 kN	13,980 lbf
Bucket Type	UD	UD
Bucket Capacity	0.53 m ³	0.69 yd ³
Bucket Tip Radius	900 mm	2'11"

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Bucket Specifications and Compatibility

	Linkage	Width		Capacity		Weight		Fill	4.3 m (15'1") Reach Boom
		mm	in	m³	yd³	kg	lb	%	R2.25 m (7'5") Stick
Pin-On (No Quick Coupler)									
Utility Duty Excavation	312	900	36	0.53	0.69	392	864	100	●
General Duty Excavation	312	1000	39	0.53	0.69	398	877	100	●
	312	1000	39	0.60	0.78	423	932	100	●
Maximum load with pin-on (payload + bucket)								kg	1742
								lb	3,841

The above loads are in compliance with hydraulic excavator standard EN474-5:2022/AC:2022, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity with front linkage fully extended at ground line with bucket curled.

Capacity based on ISO 7451:2007.

Maximum Material Density:

● 2100 kg/m³ (3,500 lb/yd³)

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

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Attachments Offering Guide

Not all attachments are available in all regions. Consult your Cat dealer for configurations available in your region.

☒ Match

PIN-ON ATTACHMENTS

Boom Type		Reach 4.3 m (15'1")
Stick Length		R2.25 m (7'5")
Hydraulic Hammers	H100 Side Mount	✓
	H110 GC S	✓
	H110 S	✓
	H115 GC S	✓
	H115 S	✓
Compactors (Vibratory Plate)	CVP75	✓

312 GC Hydraulic Excavator Specifications

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
BOOM AND STICKS			HYDRAULIC SYSTEM		
4.3 m (14'1") Reach boom	✓		Electronic main control valve	✓	
2.25 m (7'5") Reach stick	✓		Electronic control pump	✓	
CAB			Boom and stick regeneration circuits	✓	
Sound suppressed with viscous mounts	✓		Automatic hydraulic oil warm up	✓	
Operator Protective Guards (OPG)		✓	Automatic two-speed travel	✓	
High-resolution 203 mm (8") LCD touchscreen monitor	✓		Hammer lines		✓
Mechanically adjustable seat with headrest	✓		Hammer floor pedal kit		✓
Automatic bi-level air conditioner	✓		High performance hydraulic return filter	✓	
Keyless push-to-start engine control	✓		SAFETY AND SECURITY		
Floor-mounted adjustable consoles	✓		Anti-skid plating with countersunk bolts	✓	
1-button joystick	✓		Handrail and handhold	✓	
1-slider joystick		✓	Lockable external tool/storage box	✓	
AM/FM radio with USB and Auxiliary port	✓		Lockable disconnect switch	✓	
24V DC outlet	✓		Mirror package	✓	
Cup holder and storage compartments	✓		Rearview camera		✓
70/30 tempered glass windshield	✓		Swing alarm		✓
Upper radial wiper with washer	✓		Signaling/warning horn	✓	
Openable steel hatch	✓		Hydraulic lockout lever	✓	
Dome light	✓		SERVICE AND MAINTENANCE		
Washable floor mat	✓		Grouped location of filters	✓	
ELECTRICAL SYSTEM			Radiator screen	✓	
750 CCA maintenance-free batteries (×2)	✓		Scheduled Oil Sampling (S·O·S SM) ports	✓	
1000 CCA maintenance-free batteries (×2)		✓	UNDERCARRIAGE AND STRUCTURES		
Electrical disconnect switch	✓		500 mm (20") triple grouser shoes	✓	
LED left-side boom and chassis lights	✓		Center track guiding guard	✓	
LED right-side boom light		✓	Grease-lubricated track link	✓	
LED cab light		✓	Bottom guards	✓	
ENGINE			Travel motor guards	✓	
Cat® C3.6 single turbo diesel engine	✓		1800 kg (3,968 lb) counterweight	✓	
Three selectable modes: Power, Smart, Eco	✓		Tie-down points	✓	
Up to 52°C (125°F) high-ambient cooling capability	✓				
Down to -18°C (0°F) cold start capability	✓				
Down to -25°C (-13°F) cold start capability		✓			
Electric fuel priming pump	✓				
Two-stage fuel filtration system	✓				
Sealed double-element air filter with pre-cleaner	✓				
Variable speed fan	✓				
One-touch low idle	✓				
Automatic engine speed control	✓				

312 GC Hydraulic Excavator Specifications

Dealer Installed Kits and Attachments

Attachments may vary. Consult your Cat dealer for details.

GUARDS

- Mesh guard full front (not compatible with cab light cover, rain protector)
- Mesh guard lower half front
- Operator Protective Guards (OPG)

SERVICE PARTS

- Hammer floor pedal kit

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

- Meets China Nonroad Stage IV emission standards.
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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

GB/T 25614-2010 (external)	101 dB(A)
GB/T 25615-2010 (inside cab)	70 dB(A)

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- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained for doors/windows open) for extended periods or in noisy environment(s).

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.
 - Advanced hydraulic systems help balance power and efficiency
 - Automatic Engine Control (AEC) system reduces RPM when hydraulic demand is low
 - Smart mode matches machine power to digging requirements automatically
 - Eco mode supports reduced fuel consumption for light applications
 - One-touch low idle with automatic engine speed control
 - Extended service intervals help decrease maintenance costs
 - Hydraulic return filter provides longer life with a 3,000-hour replacement interval

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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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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