



316 GC

Hydraulic Excavator

Technical Specifications

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

Table of Contents

Specifications	2
Engine	2
Swing Mechanism	2
Weights	2
Track	2
Drive	2
Hydraulic System	2
Service Refill Capacities	2
Standards	3
Sound Performance	3
Air Conditioning System	3
Operating Weights and Ground Pressures	3
Major Component Weights	4
Dimensions	5
Working Ranges	6
Reach Boom Lift Capacities	7
Bucket Specifications and Compatibility:	
Taiwan	11
Southeast Asia	11
Africa/Middle East/Eurasia	12
South America	12
Attachments Offering Guide:	
Taiwan	13
Southeast Asia	14
Africa-Middle East	15
Eurasia	16
South America	17
Standard and Optional Equipment	18
Dealer Installed Kit and Attachments	20
316 GC Environmental Declaration	21

316 GC Hydraulic Excavator Specifications

Engine

Engine Model	Cat® C3.6	
Net Power		
ISO 9249	77.3 kW	104 hp
ISO 9249 (DIN)	105 hp (metric)	
Engine Power		
ISO 14396	82 kW	110 hp
ISO 14396 (DIN)	111 hp (metric)	
Bore	98 mm	4 in
Stroke	120 mm	5 in
Displacement	3.6 L	220 in ³
Biodiesel Capability	Up to B20 ⁽¹⁾	

- Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
- 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 the engine is equipped with fan, air intake system, exhaust system and alternator.
- Engine speed 2,200 rpm.
- No engine power derating required below 3000 m (9,840 ft) altitude.

⁽¹⁾Cat engines are compatible with diesel fuel blended with the following lower-carbon intensity fuels** up to:

- ✓ 100% biodiesel FAME (fatty acid methyl ester)*
- ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels

*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.

Swing Mechanism

Swing Speed*	11.5 rpm	
Maximum Swing Torque	43 kN·m	31,634 lbf·ft

*CE-marked machine default value may be set lower.

Weights

Operating Weight	14 600 kg	32,100 lb
------------------	-----------	-----------

- Long undercarriage, Heavy Duty (HD) Reach Boom, HD R2.5 (8'2") stick, General Duty (GD) 0.65 m³ (0.85 yd³) bucket, 600 mm (24") triple grouser shoes, and 3.2 mt (7,050 lb) counterweight.*

Operating Weight	14 300 kg	31,600 lb
------------------	-----------	-----------

- Long undercarriage, HD Reach Boom, HD R2.5 (8'2") stick, GD 0.65 m³ (0.85 yd³) bucket, 500 mm (20") triple grouser shoes, and 3.2 mt (7,050 lb) counterweight.*

*Includes boom and stick with High Pressure/Auxiliary (HP/AUX) lines.

Track

Track Shoes Width	500 mm	20 in
Track Shoes Width	600 mm	24 in
Track Shoes Width	700 mm	28 in
Track Shoes Width	770 mm	30 in
Number of Shoes (each side)	46	
Number of Track Rollers (each side)	7	
Number of Carrier Rollers (each side)	2	

Drive

Gradeability	35°/70%	
Maximum Travel Speed	5.4 km/h	3.4 mph
Maximum Drawbar Pull	116 kN	26,100 lbf

Hydraulic System

Main System – Maximum Flow – Implement	268 L/min	71 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	105 mm	4 in
Boom Cylinder – Stroke	1015 mm	40 in
Stick Cylinder – Bore	120 mm	5 in
Stick Cylinder – Stroke	1197 mm	47 in
Bucket Cylinder – Bore	100 mm	4 in
Bucket Cylinder – Stroke	939 mm	37 in

Service Refill Capacities

Fuel Tank Capacity	237 L	62.6 gal
Cooling System	11 L	2.9 gal
Engine Oil (with filter)	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

316 GC Hydraulic Excavator Specifications

Standards

Brakes	ISO 10265:2008
Cab/Rollover Protective Structure (ROPS) (optional)*	ISO 12117-2:2008
Cab/Operator Protective Guards (OPG) (optional)	ISO 10262:1998 (Level II)

*Option available for Brazil, Paraguay, Uruguay, Argentina, and Ecuador only.

Sound Performance

ISO 6395:2008 (external)	103 dB(A)
ISO 6396:2008 (inside cab)	80 dB(A)

- External Sound – The spectator sound power level is measured according to the test procedures and conditions specified in ISO 6395:2008 for a Caterpillar machine that is properly equipped and maintained.
- Internal Sound – The operator sound pressure level is measured according to the test procedures and conditions specified in ISO 6396:2008 for a cab offered by Caterpillar, when properly installed and maintained and tested with the door and windows closed.
- 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 of refrigerant, which has a CO₂ equivalent of 1.216 metric tonnes.

Operating Weights and Ground Pressures

	500 mm (20")		600 mm (24")		700 mm (28")		770 mm (30")	
	Triple Grouser Shoes		Triple Grouser Shoes		Triple Grouser Shoes		Triple Grouser Shoes	
	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure
	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)
Base Machine Configurations								
Base Frame with Track Rollers and Carrier Rollers								
3.2 mt (7,050 lb) Counterweight + Long Undercarriage Base Machine								
HD Reach Boom + HD R2.5 (8'2") Stick + 0.65 m ³ (0.85 yd ³) GD Bucket*	14 300 (31,600)	43.1 (6.3)	14 600 (32,200)	36.6 (5.3)	14 800 (32,600)	31.8 (4.6)	14 900 (33,000)	29.2 (4.2)
HD Reach Boom + R3.0 (9'8") Stick + 0.65 m ³ (0.85 yd ³) GD Bucket*	14 300 (31,600)	42.7 (6.2)	14 600 (32,200)	36.3 (5.3)	14 800 (32,700)	31.5 (4.6)	15 000 (33,000)	29.0 (4.2)

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

*Includes boom and stick with HP/AUX lines.

316 GC Hydraulic Excavator Specifications

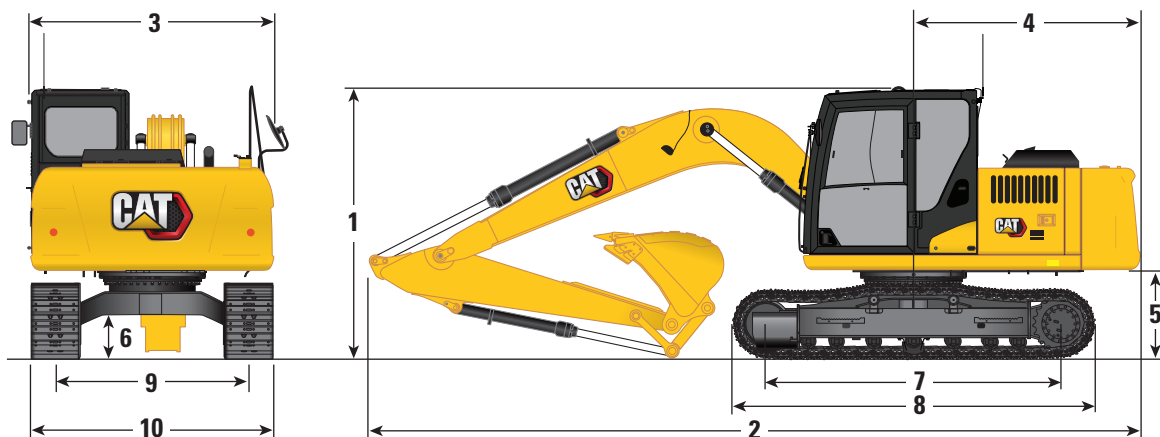
Major Component Weights

	kg	lb
Base Machine Weight (with 3.2 mt [7,050 lb] counterweight, upper frame, long undercarriage with track rollers – does not include boom, stick, bucket, boom cylinders, stick cylinder, bucket cylinder, tracks, 90% fuel tank and 75 kg [165 lb] operator).	9750	21,500
Track Shoes:		
500 mm (20") Triple Grouser Track Shoes	1540	3,390
600 mm (24") Triple Grouser Track Shoes	1810	3,990
700 mm (28") Triple Grouser Track Shoes with Additional Steps	2030	4,780
770 mm (30") Triple Grouser Track Shoes with Additional Steps	2170	4,790
Two Boom Cylinders	240	530
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	260	570
Counterweight:		
3.2 mt (7,050 lb) Counterweight	3200	7,050
Swing Frame:		
Swing Frame	1430	3,150
Undercarriage:		
Base Frame with Track Rollers and Carrier Rollers	2680	5,910
Booms (including lines, pins, stick cylinder):		
4.65 m (15'3") HD Reach Boom	1300	2,870
4.65 m (15'3") HD Reach Boom with HP/AUX lines	1340	2,950
Sticks (including lines, pins, bucket cylinder, bucket linkage):		
2.5 m (8'2") HD Reach Stick	710	1,560
2.5 m (8'2") HD Reach Stick with HP/AUX lines	750	1,660
3.0 m (9'8") Reach Stick	750	1,650
3.0 m (9'8") Reach Stick with HP/AUX lines	790	1,740
Buckets (without linkage, with tips and side cutters):		
0.65 m ³ (0.85 yd ³) GD Bucket with J-GET	490	1,080

316 GC Hydraulic Excavator Specifications

Dimensions

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



Boom Option

HD Reach Boom 4.65 m (15'3")

Stick Options

HD Reach Stick R2.5 m (8'2")

Reach Stick R3.0 m (9'8")

1 Machine Height:

Cab Height	2790 mm	9'2"	2790 mm	9'2"
Handrail Height	2830 mm	9'3"	2830 mm	9'3"
With Boom/Stick/Bucket Installed (with stick cylinder lines)	2820 mm	9'3"	3140 mm	10'4"
With Boom/Stick Installed (with stick cylinder lines)	2700 mm	8'10"	2950 mm	9'8"
With Boom Installed (with stick cylinder lines)	2170 mm	7'2"	2170 mm	7'2"

2 Machine Length:

With Boom/Stick/Bucket Installed (with stick cylinder lines)	7870 mm	25'10"	7870 mm	25'10"
With Boom/Stick Installed (with stick cylinder lines)	7870 mm	25'10"	7920 mm	26'0"
With Boom Installed (with stick cylinder lines)	7000 mm	22'11"	7000 mm	22'11"

3 Upperframe Width

2490 mm	8'2"	2490 mm	8'2"
---------	------	---------	------

4 Tail Swing Radius – 3.2 mt (7,050 lb) Counterweight

2350 mm	7'9"	2350 mm	7'9"
---------	------	---------	------

5 Counterweight Clearance

900 mm	2'11"	900 mm	2'11"
--------	-------	--------	-------

6 Ground Clearance

430 mm	1'5"	430 mm	1'5"
--------	------	--------	------

7 Track Length – Length to Center of Rollers

3040 mm	10'0"	3040 mm	10'0"
---------	-------	---------	-------

8 Overall Track Length

3750 mm	12'4"	3750 mm	12'4"
---------	-------	---------	-------

9 Track Gauge

1990 mm	6'6"	1990 mm	6'6"
---------	------	---------	------

10 Track Width/Undercarriage Width:

500 mm (20") Shoes	2490 mm	8'2"	2490 mm	8'2"
600 mm (24") Shoes	2590 mm	8'6"	2590 mm	8'6"
700 mm (28") Shoes	2690 mm	8'10"	2690 mm	8'10"
770 mm (30") Shoes	2760 mm	9'1"	2760 mm	9'1"

Bucket Type

GD

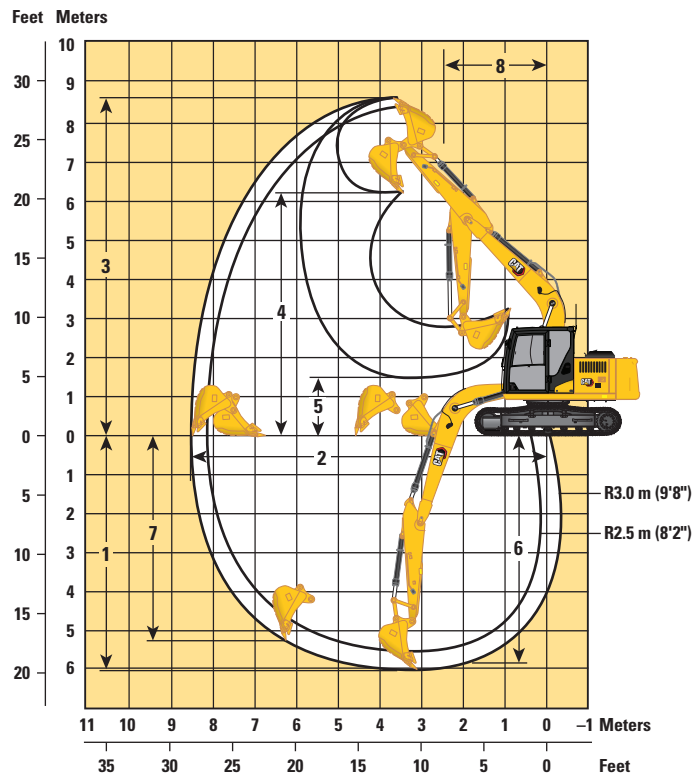
GD

Bucket Capacity	0.65 m ³	0.85 yd ³	0.65 m ³	0.85 yd ³
Bucket Tip Radius	1050 mm	3'5"	1050 mm	3'5"

316 GC Hydraulic Excavator Specifications

Working Ranges

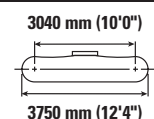
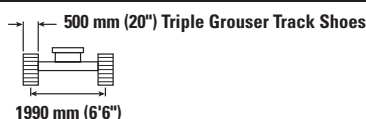
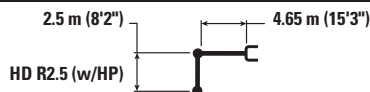
All dimensions are approximate and may vary depending on bucket selection.



Boom Option	HD Reach Boom 4.65 m (15'3")			
Stick Options	HD Reach Stick R2.5 m (8'2")		Reach Stick R3.0 m (9'8")	
1 Maximum Digging Depth	5530 mm	18'2"	6030 mm	19'9"
2 Maximum Reach at Ground Line	8180 mm	26'10"	8630 mm	28'4"
3 Maximum Cutting Height	8500 mm	27'11"	8720 mm	28'7"
4 Maximum Loading Height	6110 mm	20'1"	6340 mm	20'10"
5 Minimum Loading Height	2020 mm	6'8"	1530 mm	5'0"
6 Maximum Depth Cut for 2440 mm (8'0") Level Bottom	5330 mm	17'6"	5850 mm	19'2"
7 Maximum Vertical Wall Digging Depth	4860 mm	15'11"	5230 mm	17'2"
8 Minimum Working Equipment Radius	2440 mm	8'0"	2550 mm	8'4"
Bucket Digging Force (ISO)	109 kN	24,500 lbf	109 kN	24,500 lbf
Stick Digging Force (ISO)	75 kN	16,860 lbf	67 kN	15,060 lbf
Bucket Type	GD		GD	
Bucket Capacity	0.65 m³	0.85 yd³	0.65 m³	0.85 yd³
Bucket Tip Radius	1050 mm	3'5"	1050 mm	3'5"

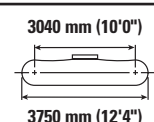
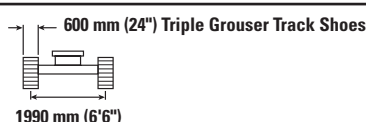
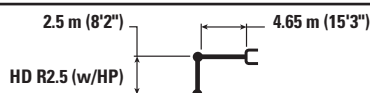
316 GC Hydraulic Excavator Specifications

Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



		1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"				mm ft/in
6000 mm 20'0"	kg lb					*3400 *7,500	*3400 *7,500			*2450 *5,400	*2450 *5,400	5380 17'4"
4500 mm 15'0"	kg lb					*3600 *7,800	*3600 *7,800	*3550 *7,200	2650 5,700	*2250 *4,950	*2250 *4,950	6380 20'9"
3000 mm 10'0"	kg lb			*5950 *12,700	*5950 *12,700	*4350 *9,450	4050 8,700	*3750 *8,200	2600 5,550	*2250 *4,900	2050 4,500	6910 22'7"
1500 mm 5'0"	kg lb			*8500 *18,300	6700 14,450	*5350 *11,550	3750 8,050	3800 8,200	2450 5,300	*2350 *5,100	1900 4,200	7080 23'2"
0 mm 0'0"	kg lb			*7850 *18,200	6350 13,600	5700 12,300	3500 7,550	3700 7,950	2350 5,050	*2600 *5,650	1950 4,250	6930 22'8"
-1500 mm -5'0"	kg lb	*5550 *12,450	*5550 *12,450	*9250 *20,050	6300 13,500	5600 12,050	3450 7,400	3650 7,900	2350 5,000	*3100 *6,850	2150 4,700	6420 21'0"
-3000 mm -10'0"	kg lb	*10 050 *22,600	*10 050 *22,600	*8100 *17,400	6400 13,750	*5500 *11,750	3500 7,500			*4150 *9,150	2700 6,000	5470 17'9"

Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



		1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"				mm ft/in
6000 mm 20'0"	kg lb					*3400 *7,500	*3400 *7,500			*2450 *5,400	*2450 *5,400	5380 17'4"
4500 mm 15'0"	kg lb					*3600 *7,800	*3600 *7,800	*3550 *7,200	2700 5,800	*2250 *4,950	*2250 *4,950	6380 20'9"
3000 mm 10'0"	kg lb			*5950 *12,700	*5950 *12,700	*4350 *9,450	4100 8,800	*3750 *8,200	2650 5,650	*2250 *4,900	2100 4,600	6910 22'7"
1500 mm 5'0"	kg lb			*8500 *18,300	6850 14,700	*5350 *11,550	3800 8,200	3900 8,350	2500 5,400	*2350 *5,100	1950 4,300	7080 23'2"
0 mm 0'0"	kg lb			*7850 *18,200	6450 13,850	5850 12,500	3600 7,700	3800 8,100	2400 5,150	*2600 *5,650	1950 4,300	6930 22'8"
-1500 mm -5'0"	kg lb	*5550 *12,450	*5550 *12,450	*9250 *20,050	6400 13,700	5750 12,300	3500 7,500	3750 8,050	2350 5,100	*3100 *6,850	2200 4,800	6420 21'0"
-3000 mm -10'0"	kg lb	*10 050 *22,600	*10 050 *22,600	*8100 *17,400	6500 14,000	*5500 *11,750	3550 7,650			*4150 *9,150	2750 6,100	5470 17'9"



ISO 10567:2007



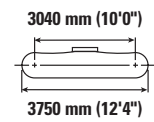
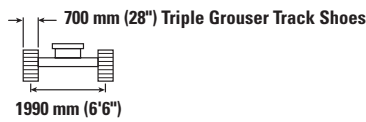
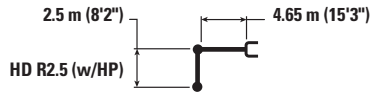
* Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.













Lift capacity stays with $\pm 5\%$ for all available track shoes.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

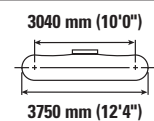
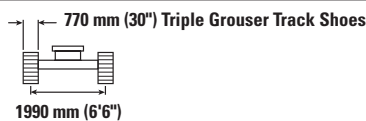
316 GC Hydraulic Excavator Specifications













Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



	1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"				mm ft/in
											
6000 mm 20'0"	kg lb				*3400 *7,500	*3400 *7,500			*2450 *5,400	*2450 *5,400	5380 17'4"
4500 mm 15'0"	kg lb				*3600 *7,800	*3600 *7,800	*3550 *7,200	2750 5,850	*2250 *4,950	*2250 *4,950	6380 20'9"
3000 mm 10'0"	kg lb		*5950 *12,700	*5950 *12,700	*4350 *9,450	4150 8,900	*3750 *8,200	2650 5,700	*2250 *4,900	2100 4,650	6910 22'7"
1500 mm 5'0"	kg lb		*8500 *18,300	6900 14,900	*5350 *11,550	3850 8,300	3950 8,450	2550 5,450	*2350 *5,100	2000 4,350	7080 23'2"
0 mm 0'0"	kg lb		*7850 *18,200	6550 14,000	5900 12,650	3650 7,800	3850 8,200	2450 5,250	*2600 *5,650	2000 4,400	6930 22'8"
-1500 mm -5'0"	kg lb	*5550 *12,450	*5550 *12,450	*9250 *20,050	6500 13,900	5800 12,450	3550 7,600	3800 8,150	*3100 *6,850	2200 4,850	6420 21'0"
-3000 mm -10'0"	kg lb	*10 050 *22,600	*10 050 *22,600	*8100 *17,400	6600 14,150	*5500 *11,750	3600 7,750		*4150 *9,150	2800 6,200	5470 17'9"

Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



	1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"				mm ft/in
											
6000 mm 20'0"	kg lb				*3400 *7,500	*3400 *7,500			*2450 *5,400	*2450 *5,400	5380 17'4"
4500 mm 15'0"	kg lb				*3600 *7,800	*3600 *7,800	*3550 *7,200	2750 5,900	*2250 *4,950	*2250 *4,950	6380 20'9"
3000 mm 10'0"	kg lb		*5950 *12,700	*5950 *12,700	*4350 *9,450	4200 9,000	*3750 *8,200	2700 5,750	*2250 *4,900	2150 4,700	6910 22'7"
1500 mm 5'0"	kg lb		*8500 *18,300	7000 15,000	*5350 *11,550	3900 8,350	4000 8,550	2550 5,500	*2350 *5,100	2000 4,400	7080 23'2"
0 mm 0'0"	kg lb		*7850 *18,200	6600 14,150	5950 12,800	3650 7,900	3850 8,300	2450 5,300	*2600 *5,650	2000 4,450	6930 22'8"
-1500 mm -5'0"	kg lb	*5550 *12,450	*5550 *12,450	*9250 *20,050	6550 14,050	5850 12,600	3600 7,700	3850 8,200	*3100 *6,850	2250 4,900	6420 21'0"
-3000 mm -10'0"	kg lb	*10 050 *22,600	*10 050 *22,600	*8100 *17,400	6650 14,300	*5500 *11,750	3650 7,800		*4150 *9,150	2800 6,250	5470 17'9"



ISO 10567:2007



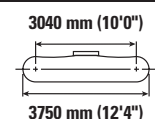
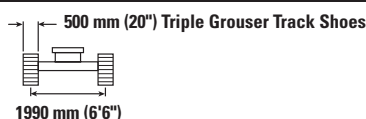
* Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.















Lift capacity stays with $\pm 5\%$ for all available track shoes.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

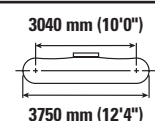
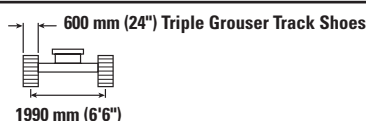
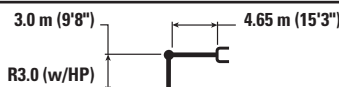
316 GC Hydraulic Excavator Specifications















Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



		1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"		7500 mm/25'0"				mm ft/in
														
7500 mm 25'0"	kg lb											*2550	*2550	4380
6000 mm 20'0"	kg lb											*2150 *4,700	*2150 *4,700	5960 19'3"
4500 mm 15'0"	kg lb							*3150 *6,950	2750 5,850			*2000 *4,400	*2000 *4,400	6860 22'4"
3000 mm 10'0"	kg lb					*3950 *8,500	*3950 *8,500	*3500 *7,600	2650 5,650			*2000 *4,350	1900 4,100	7360 24'1"
1500 mm 5'0"	kg lb			*7700 *16,500	6950 14,950	*5000 *10,750	3800 8,200	3850 8,300	2500 5,350	*2200	1750	*2100 *4,550	1750 3,850	7520 24'8"
0 mm 0'0"	kg lb			*9000 *20,000	6400 13,700	5750 12,350	3550 7,650	3700 8,000	2350 5,100			*2300 *5,050	1750 3,850	7380 24'2"
-1500 mm -5'0"	kg lb	*5150 *11,500	*5150 *11,500	*9450 *20,400	6250 13,350	5600 12,000	3400 7,350	3650 7,850	2300 4,950			*2700 *6,000	1900 4,200	6910 22'7"
-3000 mm -10'0"	kg lb	*8600 *19,350	*8600 *19,350	*8600 *18,600	6300 13,500	5600 12,050	3400 7,350	3700	2350			*3650 *8,100	2300 5,150	6040 19'8"
-4500 mm -15'0"	kg lb			*6450 *13,650	*6450 *13,650	*4050	3600					*4000 *8,750	3600 8,150	4520 14'6"

Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



		1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"		7500 mm/25'0"				mm ft/in
														
7500 mm 25'0"	kg lb											*2550	*2550	4380
6000 mm 20'0"	kg lb											*2150 *4,700	*2150 *4,700	5960 19'3"
4500 mm 15'0"	kg lb							*3150 *6,950	2800 5,950			*2000 *4,400	*2000 *4,400	6860 22'4"
3000 mm 10'0"	kg lb					*3950 *8,500	*3950 *8,500	*3500 *7,600	2700 5,750			*2000 *4,350	1900 4,200	7360 24'1"
1500 mm 5'0"	kg lb			*7700 *16,500	7050 15,200	*5000 *10,750	3900 8,350	3950 8,450	2550 5,450	*2200	1800	*2100 *4,550	1800 3,900	7520 24'8"
0 mm 0'0"	kg lb			*9000 *20,000	6500 13,950	*5800 12,550	3600 7,750	3800 8,150	2400 5,200			*2300 *5,050	1800 3,950	7380 24'2"
-1500 mm -5'0"	kg lb	*5150 *11,500	*5150 *11,500	*9450 *20,400	6350 13,600	5700 12,250	3500 7,500	3700 8,000	2350 5,050			*2700 *6,000	1950 4,300	6910 22'7"
-3000 mm -10'0"	kg lb	*8600 *19,350	*8600 *19,350	*8600 *18,600	6400 13,750	5700 12,250	3500 7,500	3750	2400			*3650 *8,100	2350 5,250	6040 19'8"
-4500 mm -15'0"	kg lb			*6450 *13,650	*6450 *13,650	*4050	3650					*4000 *8,750	3650 8,300	4520 14'6"



ISO 10567:2007



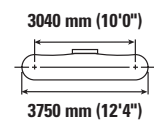
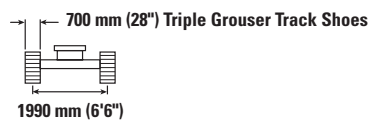
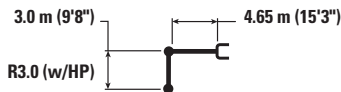
* Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.















Lift capacity stays with $\pm 5\%$ for all available track shoes.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

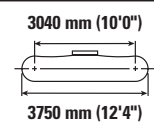
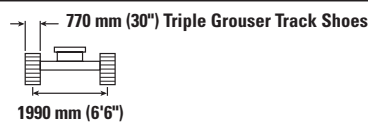
316 GC Hydraulic Excavator Specifications















Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



		1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"		7500 mm/25'0"				mm ft/in
														
7500 mm 25'0"	kg lb											*2550	*2550	4380
6000 mm 20'0"	kg lb											*2150 *4,700	*2150 *4,700	5960 19'3"
4500 mm 15'0"	kg lb							*3150 *6,950	2800 6,000			*2000 *4,400	*2000 *4,400	6860 22'4"
3000 mm 10'0"	kg lb					*3950 *8,500	*3950 *8,500	*3500 *7,600	2700 5,800			*2000 *4,350	1950 4,250	7360 24'1"
1500 mm 5'0"	kg lb			*7700 *16,500	7150 15,350	*5000 *10,750	3900 8,450	*3950 *8,550	2600 5,500	*2200	1800	*2100 *4,550	1800 4,000	7520 24'8"
0 mm 0'0"	kg lb			*9000 *20,000	6600 14,100	*5800 *12,600	3650 7,850	3850 8,250	2450 5,250			*2300 *5,050	1850 4,000	7380 24'2"
-1500 mm -5'0"	kg lb	*5150 *11,500	*5150 *11,500	*9450 *20,400	6400 13,800	5800 12,400	3550 7,600	3750 8,100	2400 5,100			*2700 *6,000	2000 4,350	6910 22'7"
-3000 mm -10'0"	kg lb	*8600 *19,350	*8600 *19,350	*8600 *18,600	6500 13,900	5800 12,400	3550 7,600	3800	2400			*3650 *8,100	2400 5,300	6040 19'8"
-4500 mm -15'0"	kg lb			*6450 *13,650	*6450 *13,650	*4050	3700					*4000 *8,750	3700 8,400	4520 14'6"

Reach Boom Lift Capacities – Counterweight: 3.2 mt (7,050 lb) – without Bucket



		1500 mm/5'0"		3000 mm/10'0"		4500 mm/15'0"		6000 mm/20'0"		7500 mm/25'0"				mm ft/in
														
7500 mm 25'0"	kg lb											*2550	*2550	4380
6000 mm 20'0"	kg lb											*2150 *4,700	*2150 *4,700	5960 19'3"
4500 mm 15'0"	kg lb							*3150 *6,950	2850 6,050			*2000 *4,400	*2000 *4,400	6860 22'4"
3000 mm 10'0"	kg lb					*3950 *8,500	*3950 *8,500	*3500 *7,600	2750 5,850			*2000 *4,350	1950 4,300	7360 24'1"
1500 mm 5'0"	kg lb			*7700 *16,500	7200 15,500	*5000 *10,750	3950 8,500	*3950 *8,550	2600 5,600	*2200	1850	*2100 *4,550	1850 4,000	7520 24'8"
0 mm 0'0"	kg lb			*9000 *20,000	6650 14,250	*5800 *12,600	3700 7,950	3900 8,350	2500 5,300			*2300 *5,050	1850 4,050	7380 24'2"
-1500 mm -5'0"	kg lb	*5150 *11,500	*5150 *11,500	*9450 *20,400	6500 13,900	5850 12,550	3550 7,650	3800 8,150	2400 5,150			*2700 *6,000	2000 4,400	6910 22'7"
-3000 mm -10'0"	kg lb	*8600 *19,350	*8600 *19,350	*8600 *18,600	6550 14,050	*5800 *12,450	3550 7,650	3850	2450			*3650 *8,100	2400 5,350	6040 19'8"
-4500 mm -15'0"	kg lb			*6450 *13,650	*6450 *13,650	*4050	3750					*4000 *8,750	3750 8,450	4520 14'6"



ISO 10567:2007



* Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Lift capacity stays with $\pm 5\%$ for all available track shoes.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

316 GC Hydraulic Excavator Specifications

Bucket Specifications and Compatibility – Taiwan

	Linkage	Width		Capacity		Weight		Fill	HD Reach Boom
		mm	in	m³	yd³	kg	lb	%	HD R2.5 (8'2")
Pin-On (No Quick Coupler)									
General Duty	312	1050	42	0.65	0.85	479	1,056	100	●
	312	1150	45	0.70	0.92	490	1,080	90	●
Severe Duty	312	1050	42	0.65	0.85	550	1,212	100	●
Maximum load with pin-on (payload + bucket)								kg	1971
								lb	4,345

Bucket Specifications and Compatibility – Southeast Asia

	Linkage	Width		Capacity		Weight		Fill	HD Reach Boom	
		mm	in	m³	yd³	kg	lb	%	HD R2.5 (8'2")	R3.0 (9'8")
Pin-On (No Quick Coupler)										
General Duty	312	1050	42	0.65	0.85	479	1,056	100	●	●
	312	1150	45	0.70	0.92	490	1,080	90	●	●
Severe Duty	312	1050	42	0.65	0.85	550	1,212	100	●	◎
Maximum load with pin-on (payload + bucket)								kg	1971	1785
								lb	4,345	3,934

The above loads are in compliance with hydraulic excavator standard EN 474-5:2022/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)

◎ 1800 kg/m³ (3,000 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.

316 GC Hydraulic Excavator Specifications

Bucket Specifications and Compatibility – Africa/Middle East/Eurasia

	Linkage	Width		Capacity		Weight		Fill	HD Reach Boom	
		mm	in	m³	yd³	kg	lb	%	HD R2.5 (8'2")	R3.0 (9'8")
Pin-On (No Quick Coupler)										
General Duty	312	1100	43	0.68	0.89	495	1,090	100	●	⊙
	312	1200	48	0.76	0.99	526	1,159	100	⊙	⊖
Maximum load with pin-on (payload + bucket)								kg	1971	1785
								lb	4,345	3,934

Bucket Specifications and Compatibility – South America

	Linkage	Width		Capacity		Weight		Fill	HD Reach Boom	
		mm	in	m³	yd³	kg	lb	%	HD R2.5 (8'2")	R3.0 (9'8")
Pin-On (No Quick Coupler)										
General Duty	312	1050	42	0.65	0.85	492	1,084	100	●	⊙
	312	1200	48	0.76	0.99	534	1,176	100	⊙	⊖
Severe Duty	312	1050	42	0.65	0.85	536	1,181	90	●	●
Maximum load with pin-on (payload + bucket)								kg	1971	1785
								lb	4,345	3,934

The above loads are in compliance with hydraulic excavator standard EN 474-5:2022/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)
- ⊙ 1800 kg/m³ (3,000 lb/yd³)
- ⊖ 1500 kg/m³ (2,500 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.

316 GC Hydraulic Excavator Specifications

Attachments Offering Guide – Taiwan

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

☒ Match

PIN-ON ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H115 GC	✓	✓
	H115 GC S	✓	✓
Rotary Cutters	RC10	✓	✓

316 GC Hydraulic Excavator Specifications

Attachments Offering Guide – Southeast Asia

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

☒ Match

PIN-ON ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
Rotary Cutters	RC10	✓	✓

316 GC Hydraulic Excavator Specifications

Attachments Offering Guide – Africa-Middle East

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

☒ Match ☐ * Working range front only

PIN-ON ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓

CW-20s DEDICATED COUPLER ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓*
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓

CW-20 DEDICATED COUPLER ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓*
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓

316 GC Hydraulic Excavator Specifications

Attachments Offering Guide – Eurasia

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

☒ Match ☐ * Working range front only

PIN-ON ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
Rotary Cutters	RC10	✓	✓

CW-20s DEDICATED COUPLER ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓*
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
Rotary Cutters	RC10	✓	✓
	RC15	✓	✓

CW-20 DEDICATED COUPLER ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓*
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
Rotary Cutters	RC10	✓	✓
	RC15	✓	✓

316 GC Hydraulic Excavator Specifications

Attachments Offering Guide – South America

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

☒ Match

PIN-ON ATTACHMENTS

Boom Type		HD Reach	
Stick Length		HD R2.5 (8'2")	R3.0 (9'8")
Hydraulic Hammers	H110 GC	✓	✓
	H110 GC S	✓	✓
	H110 S	✓	✓
	H115 GC	✓	✓
	H115 GC S	✓	✓
	H115 S	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
Rotary Cutters	RC10	✓	✓

316 GC Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
BOOMS AND STICKS			ENGINE		
4.65 m (15'3") HD Reach boom	✓		Cat C3.6 single turbo diesel engine	✓	
2.5 m (8'2") HD Reach stick		✓	Three selectable modes: Power, Smart, Eco	✓	
3.0 m (9'8") Reach stick		✓ ¹	52° C (125° F) high-ambient cooling capability	✓	
CAB			–18° C (–0.4° F) cold start capability	✓ ⁴	
Sound suppressed with viscous mounts	✓		–25° C (–13° F) cold start capability		✓ ⁵
Operator Protective Guards (OPG)		✓	Electric fuel priming pump	✓	
Rollover Protective Structure (ROPS)		✓ ²	Two-stage fuel filtration system	✓	
High-resolution 203 mm (8") LCD touchscreen monitor	✓		Sealed double-element air filter with pre-cleaner	✓	
Mechanically adjustable seat with headrest	✓		HD fuel filter	✓ ⁶	
Automatic bi-level air conditioner	✓		HYDRAULIC SYSTEM		
Keyless push-to-start engine control	✓		Electronic main control valve	✓	
Floor-mounted adjustable consoles	✓		Electronic control pump	✓	
1-button joystick	✓		Boom and stick regeneration circuits	✓	
1-slider joystick		✓	Automatic hydraulic oil warm up	✓	
AM/FM radio with USB and Auxiliary port	✓		Automatic two-speed travel	✓	
24V DC outlet	✓		Hammer lines		✓
Cup holder and storage compartments	✓		Hammer floor pedal kit		✓
70/30 tempered glass windshield	✓		High performance hydraulic return filter	✓	
Upper radial wiper with washer	✓		SAFETY AND SECURITY		
Openable steel hatch	✓		Anti-skid plating with countersunk bolts	✓	
Dome light	✓		Handrail and handhold	✓	
Washable floor mat	✓		Lockable external tool/storage box	✓	
CAT TECHNOLOGY			Lockable disconnect switch	✓	
Cat Equipment Management:			Ground-level accessible secondary engine shutoff switch	✓	
– VisionLink™	✓ ³		Mirror package	✓	
– Remote Flash	✓		Rearview camera		✓
ELECTRICAL SYSTEM			Signaling/warning horn	✓	
750 CCA maintenance-free batteries (×2)	✓		Swing alarm		✓
1000 CCA maintenance-free batteries (×2)		✓	Hydraulic lockout lever	✓	
Electrical disconnect switch	✓		Travel alarm with cancel switch		✓ ⁷
LED left-side boom and chassis lights	✓				
LED right-side boom light		✓ ¹			
LED cab light		✓			

(continued on next page)

¹ All regions except Taiwan

² Brazil, Paraguay, Uruguay, Argentina, and Ecuador only

³ Provides core telematics data to manage health, maintenance insights, and condition monitoring. Other plans available for more comprehensive data reporting. Consult your Cat dealer for details.

⁴ All regions except Eurasia

⁵ Standard in Eurasia; optional in Africa, Middle East, South America (excluding Brazil)

⁶ Brazil only

⁷ Standard in South America

316 GC Standard and Optional Equipment

Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
SERVICE AND MAINTENANCE			UNDERCARRIAGE AND STRUCTURES		
Grouped location of filters	✓		Grease lubricated track link	✓	
Radiator screen	✓		500 mm (20") triple grouser shoes		✓ ⁸
S·O·S SM ports	✓		600 mm (24") triple grouser shoes		✓ ¹
			700 mm (28") triple grouser shoes with additional steps		✓ ⁹
			770 mm (30") triple grouser shoes with additional steps		✓ ¹⁰
			Center track guiding guard	✓	
			Bottom guards	✓	
			Travel motor guards	✓	
			Swivel guard		✓ ¹¹
			3.2 mt (7,050 lb) counterweight	✓	
			Tie-down points	✓	

¹ All regions except Taiwan

⁸ All regions except Brazil

⁹ All regions except Brazil, Taiwan, and Africa, Middle East

¹⁰ All regions except Taiwan, and Africa, Middle East

¹¹ Standard in South America and Eurasia

316 GC Attachments

Dealer Installed Kit 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

- The Cat C3.6 engine meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
 - Cat engines are compatible with diesel fuel blended with the following lower-carbon intensity fuels** up to:
 - ✓ 100% 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.
- *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 (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).

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

- | | |
|----------------------------|-----------|
| ISO 6395:2008 (external) | 103 dB(A) |
| ISO 6396:2008 (inside cab) | 80 dB(A) |
- External Sound – The spectator sound power level is measured according to the test procedures and conditions specified in ISO 6395:2008 for a Caterpillar machine that is properly equipped and maintained.
 - Internal Sound – The operator sound pressure level is measured according to the test procedures and conditions specified in ISO 6396:2008 for a cab offered by Caterpillar, when properly installed and maintained and tested with the door and windows closed.
 - 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 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

© 2025 Caterpillar
All rights reserved

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

CAT, CATERPILLAR, LET'S DO THE WORK, VisionLink, their respective logos, "Caterpillar Corporate Yellow," the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.
www.cat.com www.caterpillar.com

AEXQ4101-01 (12-2025)
Replaces AEXQ4101-00
Build Number: 05F
(Afr-ME, Eurasia, Taiwan,
S Am [excluding Chile,
Colombia], SE Asia)

