

# 316E L

Hydraulic Excavator



## Engine

Engine Model	Cat® C4.4 ACERT™	
Power – ISO 14396 (metric)	89 kW	121 hp

## Drive

Maximum Travel Speed	5.2 km/h
Maximum Drawbar Pull	156.2 kN

## Weights

Minimum Operating Weight	17 200 kg
Maximum Operating Weight	18 700 kg

## Introduction

Since its introduction in the 1990s, the 300 Series family of excavators has become the industry standard in general, quarry, and heavy construction applications. The all-new E Series and the 316E L will continue that trend-setting standard.

The 316E L meets today's European Union emission standards. It is also built with several new fuel-saving and comfort-enabling features and benefits that will delight owners and operators.

If you are looking for more productivity and comfort less fuel consumption and emissions, and easier and more sensible serviceability, you will find it in the all-new 316E L and the E Series family of excavators.



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# Engine

Reduced emissions, economical and reliable performance

## Cat® C4.4 ACERT™ Engine

The Cat C4.4 ACERT engine delivers performance using significantly less fuel than the previous series engine.

### Emissions Solution

Equipped to meet Stage IIIB emission standards, the 316E L's C4.4 ACERT engine features a wall and thru flow filter that performs through the whole work cycle of the engine ensuring that it works efficiently and invisibly.

### Biodiesel-Ready Fuel System

The C4.4 ACERT engine is equipped with an electronic-controlled high-pressure fuel system that includes an electric priming pump and three-layer fuel hoses to allow the use of biodiesel up to B20 (biodiesel fuel 20% mixture meeting ASTM 6751 or EN 14214).

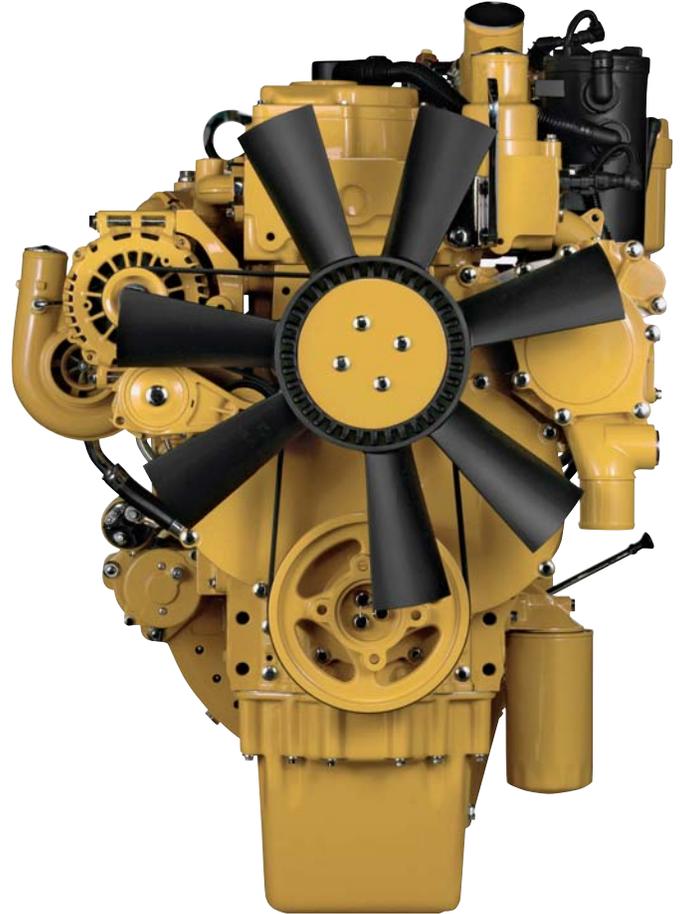
All nonroad European Union Stage IIIB diesel engines are required to use only Ultra Low Sulfur Diesel (ULSD) fuels containing 15 mg/kg sulfur or less. Cat® DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specification are also required. For further fluid specifications and guidelines, visit: <http://www.cat.com/cda/files/214956/71/SEBU6251-13-secured.pdf>

### Cooling System

The cooling system features an easy to open air to air after cooler and swing out A/C condenser for easy cleaning.

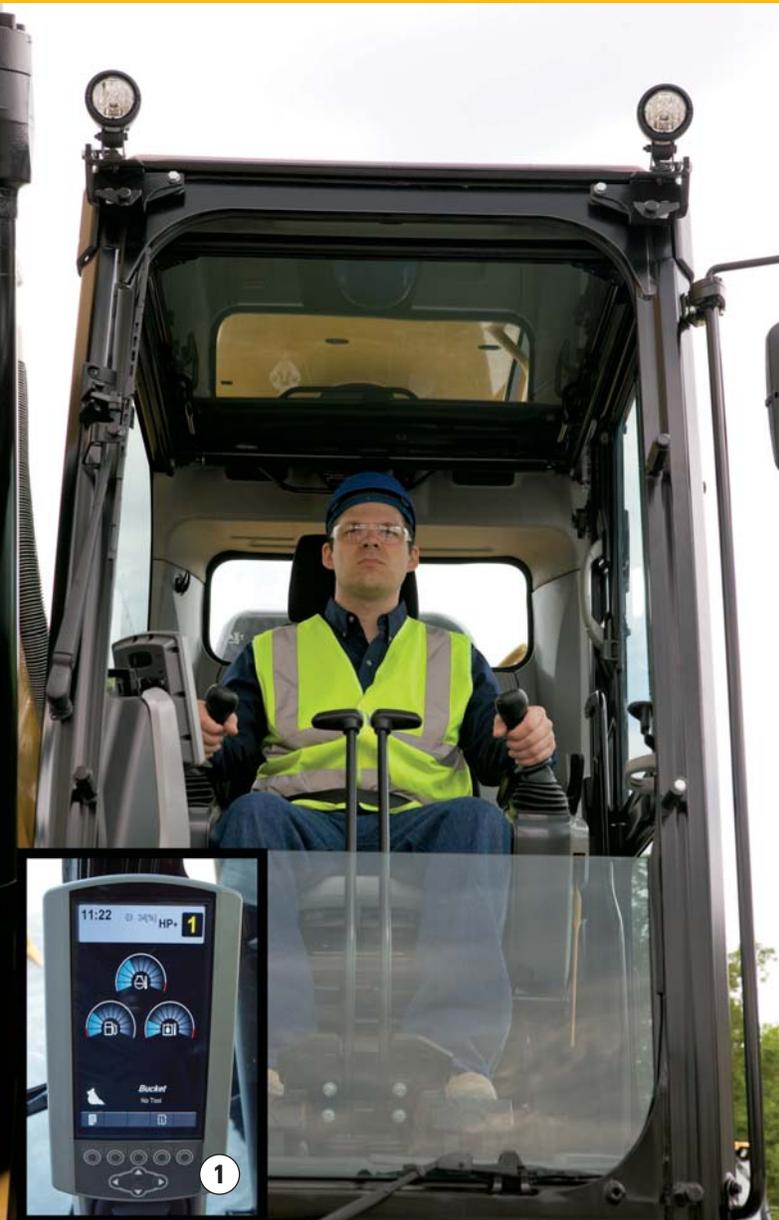
### Speed and Power Control

The 316E L features speed control to maximize performance while minimizing fuel consumption. Two different power modes are offered: high power mode when you need maximum production and economy mode when you need performance with lowest fuel consumption. The operator can easily change between modes through the console switch panel to meet the needs for the job at hand – all to help manage and conserve fuel.



# Operator Station

Comfort and convenience to keep people productive



## Seats

The seat range includes air suspension, heated, and air cooled options. All seats include a reclining back, upper and lower seat slide adjustments and height and tilt angle adjustments to meet operator needs for comfort and productivity.

## Controls

The right and left joystick consoles can be adjusted to meet individual preferences, improving operator comfort and productivity during the course of a day. With the touch of a button, one-touch idle reduces engine speed to help save fuel; touch it again or move the joystick and the machine returns to normal operating level.

## Monitor

The 316E L is equipped with a 7" LCD (Liquid Crystal Display) monitor that's 40% bigger than the previous model's with higher resolution for better visibility. In addition to an improved keypad and added functionality, it's programmable to provide information in a choice of 44 languages to support today's diverse workforce.

An "Engine Shutdown Setting" accessible through the monitor allows owners and operators to specify how long the machine should idle before shutting down the engine, which can save significant amounts of fuel.

The image of the rearview camera is displayed directly on the monitor.

## Power Supply

Two 12-volt power supply sockets are located near key storage areas for charging electronic devices such as MP3 player, mobile phone, etc.

## Storage

Storage spaces are located in the front, rear, and side consoles. A dedicated space near the auxiliary power supply holds MP3 players and cell phones. The drink holder accommodates large mugs with handles, and a shelf behind the seat stores large lunch or toolboxes.

## Automatic Climate Control

The climate control system features five air outlets with positive filtered ventilation, which makes working in the heat and cold much more pleasant.



# Hydraulics

Power to move more dirt, rock, and debris with speed and precision

## **Main Control Valve and Auxiliary Valves**

The 316E L uses a high-pressure system to tackle the toughest of work in short order. The machine features a highly efficient main control valve to improve fuel consumption; it also allows for greater tool versatility.

## **Swing Priority Circuit**

Like the 315D, the E swing priority circuit uses a hydraulic valve to control swing priority.

## **Electric Boom Regeneration System**

Like D Series the 316E L regenerates the flow of oil from the head-end of the boom cylinder to the rod-end of the boom cylinder during a boom down operation to save energy, which helps improve fuel efficiency. It is optimized for any dial speed setting being used by the operator, which results in less pressure loss for higher controllability, more productivity, and lower operating costs.



# Structures & Undercarriage

Built to work in rugged environments

## Frame

The upper frame includes reinforced mountings to support the Roll-Over Protective Structure (ROPS) cab; the lower frame is reinforced to increase component durability.

## Undercarriage

Long undercarriage supports various work applications. The track rollers of the 316E L are a double solid-pin type design to improve reliability compared to the single solid-pin-type design.

A segmented two-piece guiding guard is now offered to help maintain track alignment and improve performance in multiple applications.

## Counterweight

Built with an integrated rearview camera housing, the counterweight comes with integrated links to enable easy removal for maintenance or shipping.

# Front Linkage

Made for high stress and long service life

## Booms and Sticks

The 316E L is offered with a range of boom and stick options. Each is built with internal baffle plates for added durability, and each undergoes ultrasound inspection to ensure weld quality and reliability.

Large box-section structures with thick, multi-plate fabrications, castings, and forgings are used in high-stress areas such as the boom nose, boom foot, boom cylinder, and stick foot to improve durability.

The boom nose pin retention method is a bolted captured flag design. Also, the front linkage pins' inner bearing surfaces are welded, and a self-lubricated bearing is used to extend service intervals and increase uptime.

## Selections

There are two basic boom options: Reach and variable angle. Sticks match the boom descriptions and applications below:

- **Reach** – This boom is designed to balance reach, digging force, and bucket capacity. It covers the vast majority of applications such as digging, loading, trenching, and working with hydraulic tools.
- **Variable Angle** – This configuration offers superb flexibility and versatility in the working envelope. Boom position can be adjusted from 90° when fully retracted to 180° and fully extended. With full extension, the working range gives maximum dig depth, reach, and working height. Equally, when retracted, it can work closer to its tracks, increase lifting capacity, and work in confined areas.



# Work Tools

Dig, hammer, rip, and cut with confidence



An extensive range of Cat Work Tools for the 316E L includes buckets, compactors, grapples, multi-processors, scrap and demolition shears, rippers, crushers, pulverizers and hammers. Each is designed to optimize the versatility and performance of your machine.

## CW Quick Couplers

Quick couplers allow one person to change work tools in seconds for maximum performance and flexibility on a job site. One machine can move rapidly from task to task, and a fleet of similarly equipped machines can share a common work tool inventory. The dedicated CW Series quick coupler enables a quick tool exchange while maintaining top machine performance. A lifting hook is added for maximum lift capacity.

The CW quick coupler can pick up any work tool and is equipped with a wedge-style locking system that fits the quick coupler tight to the tool hinges. Due to the tapered wedge design, there won't be any play during its entire life. Also, it is interchangeable with different machine classes. The CW is highly suitable for harsh applications such as demolition and quarries.

## Buckets

Cat buckets are designed as an integral part of the 316E L system and feature new geometry for better performance. The leading edge has been pushed forward, resulting in more efficient filling and better operator control for greatly improved productivity. Wear coverage in the corners and side cutter and sidebar protector coverage are improved. All benefits are captured in a new bucket line with a new bucket naming convention.

### Three Durability Categories Suitable for Any Situation

Caterpillar offers three standard bucket categories for excavators. Each category is based on intended bucket durability when used in recommended application and material. Each bucket durability is available as pin-on or can be used with a Quick Coupler. Red areas on bucket images illustrate additional protection against wear as it increases across each category.

#### General Duty (GD)

GD buckets are for digging in low-impact, low-abrasion material such as dirt, loam, and mixed compositions of dirt and fine gravel.

#### Heavy Duty (HD)

The most popular bucket style, HD buckets are a good starting point when digging conditions are not well known like a wide range of impact and abrasion conditions that include mixed dirt, clay, and rock.

#### Severe Duty (SD)

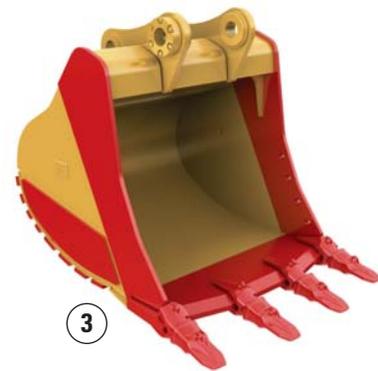
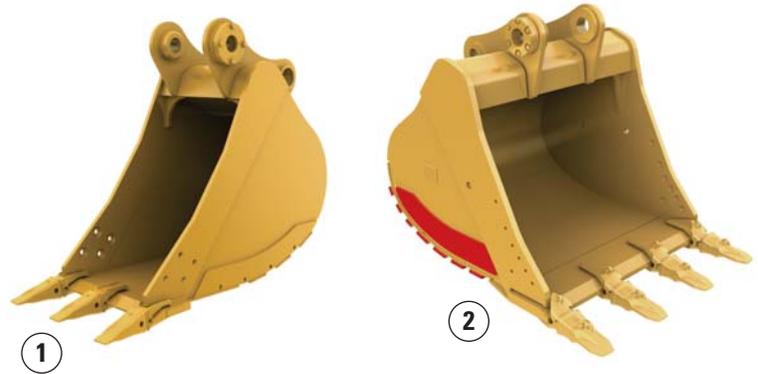
SD buckets are for higher abrasion conditions such as well shot granite and caliche.

#### Special Buckets

Special buckets are available for the 316E L. Ask your dealer for details.

#### Comprehensive Product Support

All Cat Work Tools are backed up by a world-wide network of well-stocked parts depots and highly experienced service and support personnel.



1) General Duty 2) Heavy Duty 3) Severe Duty



# Integrated Technologies

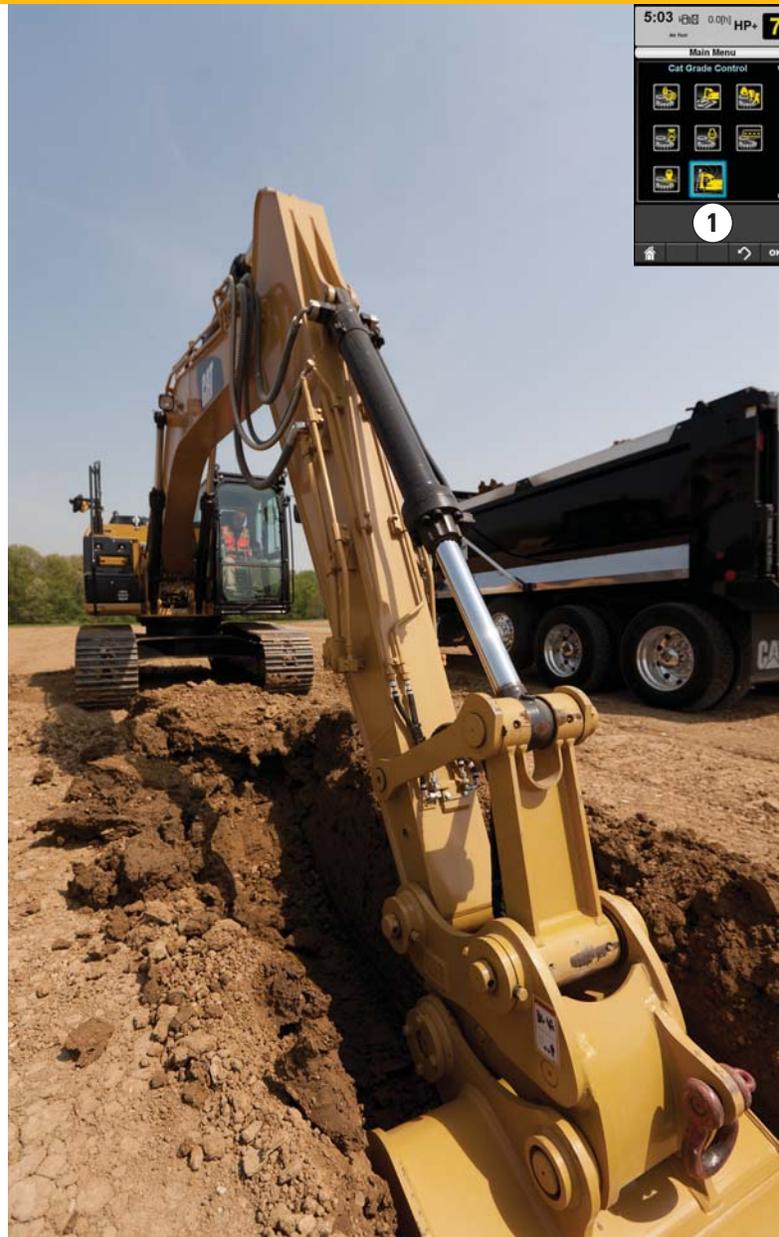
Solutions that make work easier and more efficient

## Cat® Grade Control Depth and Slope

This optional system combines traditional machine control and guidance with standard factory-installed and calibrated components, making the system ready to go to work the moment it leaves the factory. The system utilizes internal front linkage sensors – well protected from the harsh working environment – to give operators real-time bucket tip position information through the cab monitor (1), which minimizes the need and cost for traditional grade checking and improves job site safety. It also helps the operator complete jobs in fewer cycles, which means less fuel use. Cat dealers can upgrade the system to full three-dimensional control by adding proven Cat AccuGrade™ positioning technologies, including GPS and Universal Total Station (UTS).

## Cat Product Link

This deeply integrated machine monitoring system (2 and 3) is designed to help customers improve their overall fleet management effectiveness. Events and diagnostic codes as well as hours, fuel consumption, idle time, machine location, and other detailed information are transmitted to a secure web based application called VisionLink™, which uses powerful tools to communicate to users and dealers.



# Serviceability

Fast, easy and safe access built in

## Service Doors

Wide service doors feature sturdier hinges and latches and a new screen design to help prevent debris entry; a one piece hood provides easier access to the engine and cooling compartments.

## Compartments

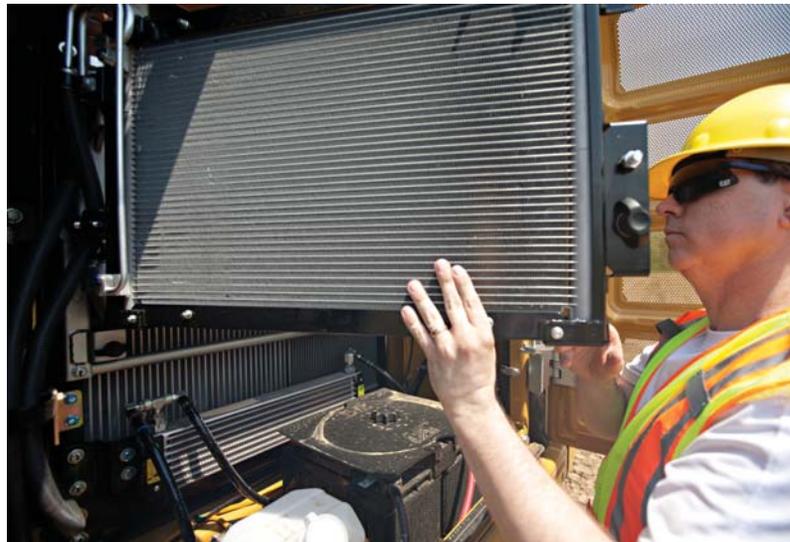
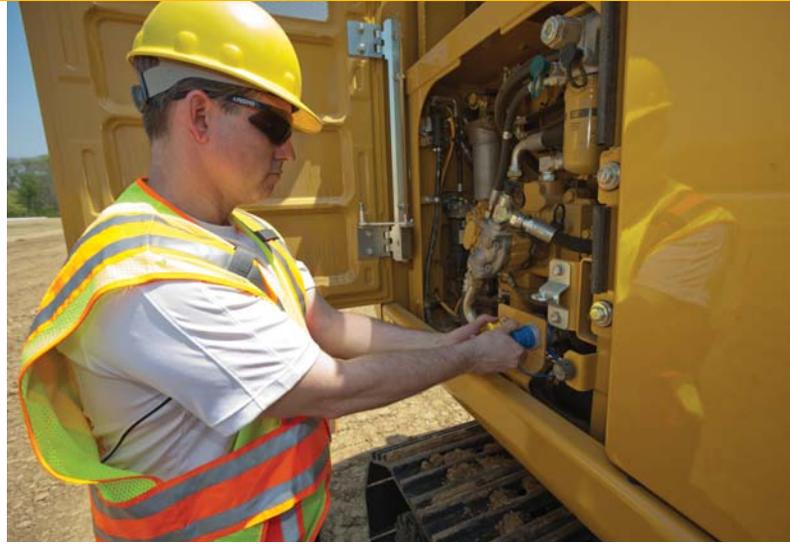
The radiator, pump, and air cleaner compartments provide easy access to major components. The fresh air filter is located on the side of the cab to make it easy to reach and replace as needed.

## Other Service Benefits

The water separator with water level sensor has a primary fuel filter element located in the pump compartment near ground level; the electric priming pump is individually mounted before the primary filter base and is easy to service compared to a traditional hand-priming pump.

The fuel tank features a remote drain cock located in the pump compartment to make it easy to remove water and sediment during maintenance.

The engine oil check gauge is situated in front of the engine compartment for easy access, and a uniquely designed drain cock helps prevent spills.



# Safety

Features to help protect people



## **ROPS Cab**

The ROPS-certified cab allows a Falling Object Guard Structure (FOGS) to be bolted directly to it.

## **Sound Proofing**

Improved sealing and cab roof lining significantly lower noise levels inside the cab during machine operation.

## **Anti-Skid Plates**

The surface of the upper structure and the top of the storage box area are covered with anti-skid plates to help prevent service personnel and operators from slipping during maintenance.

## **Steps, Hand and Guard Rails**

Steps on the track frame and storage box along with extended hand and guard rails (2) to the upper deck enable operators to securely work on the machine.

## **Time Delay Lights**

With light switch ON, after the engine start key has been turned to the “OFF” position, cab and boom lights will illuminate to enhance visibility. The time delay can vary from 0 to 90 seconds, which can be set through the monitor.

## **High Intensity Discharge (HID) Lights**

Halogen lights are standard, but they can be upgraded to HID for greater visibility.

## **Visibility – Windows**

The 70/30 split configuration features an upper window equipped with handles on the top and both sides so the operator can slide it to store in the ceiling. The lower window is removable and can be stored on the left wall of the cab shell.

The large skylight provides great overhead visibility, excellent natural lighting, and good ventilation. The skylight can be opened completely to become an emergency exit.

## **Wiper System**

Lower wiper is available as an option to maximize visibility in poor weather conditions. The wiper motor is integrated to the upper frame so that it does not obstruct any part of the forward view.

## **Monitor Warning System**

The monitor is equipped with a buzzer that can warn operators of critical events so they can take any necessary action.

## **Rearview Camera**

The rearview camera is housed in the counterweight. The image projects through the cab monitor to give the operator a clear view of what is behind the machine.



# Complete Customer Care

Service you can count on

## **Product Support**

Cat dealers utilize a worldwide parts network to maximize your machines' uptime. Plus they can help you save money with Cat remanufactured components.

## **Machine Selection**

What are the job requirements and machine attachments? What production is needed? Your Cat dealer can provide recommendations to help you make the right machine choices.

## **Purchase**

Consider financing options and day-to-day operating costs. Look at dealer services that can be included in the machine's cost to yield lower owning and operating costs over time.

## **Customer Support Agreements**

Cat dealers offer a variety of customer support agreements and work with you to develop a plan to meet your specific needs. These plans can cover the entire machine, including attachments, to help protect your investment.

## **Operation**

Improving operating techniques can boost your profits. Your Cat dealer has videos, literature, and other ideas to help you increase productivity. Caterpillar also offers simulators and certified operator training to help maximize the return on your investment.

## **Replacement**

Repair, rebuild, or replace? Your Cat dealer can help you evaluate the cost involved so you can make the best choice for your business.



# Sustainability

Generations ahead in every way

- The C4.4 ACERT engine, along with the Cat Clean Emissions Module (CEM), meets EU Stage IIIB emission standards.
- Even when operating in high horsepower and high production applications, the 316E L performs a similar amount of work while burning up to 8% less fuel than the previous D Series model. This means more efficiency, less resources consumed, and fewer CO<sub>2</sub> emissions.
- The 316E L has the flexibility of running on either ultra-low-sulfur diesel (ULSD) fuel with 15 mg/kg of sulfur or less or biodiesel (biodiesel fuel 20% mixture meeting ASTM 6751 or EN 14214) fuel blended with ULSD.
- A platform – level overfill indicator for fuel tank rises when the tank is full to help the operator avoid spilling.
- The QuickEvac™ option ensures fast, easy, and secure changing of engine and hydraulic oil.
- The 316E L is built to be rebuilt with major structures and components capable of being remanufactured to reduce waste and replacement costs.
- An engine oil filter is designed so that it eliminates the need for painted metal cans and aluminum top plates. The cartridge-style spin-on housing enables the internal filter to be separated and replaced.
- The 316E L is an efficient, productive machine that's designed to conserve our natural resources for generations ahead.

# 316E L Hydraulic Excavator Specifications

## Engine

Engine Model	Cat® C4.4 ACERT™
Power – ISO 14396	89 kW
Power – ISO 14396 (Metric)	121 hp
Power – ISO 14396 (Imperial)	119 hp
Engine Net Power – ISO 9249 (Metric)	85 kW
Engine Net Power – ISO 9249 (Metric)	116 hp
Engine Net Power – ISO 9249 (Imperial)	113 hp
Bore	105 mm
Stroke	127 mm
Displacement	4.4 L

## Weights

Operating Weight	17 600 kg
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## Hydraulic System

Main System – Maximum Flow (Total)	300 L/min
Swing System – Maximum Flow	150 L/min
Maximum Pressure – Equipment	35 000 kPa
Maximum Pressure – Travel	35 000 kPa
Maximum Pressure – Swing	22 600 kPa
Pilot System – Maximum Flow	25.8 L/min
Pilot System – Maximum Pressure	4120 kPa
Boom Cylinder – Bore	110 mm
Boom Cylinder – Stroke	1193 mm
Stick Cylinder – Bore	120 mm
Stick Cylinder – Stroke	1331 mm
Bucket Cylinder – Bore	110 mm
Bucket Cylinder – Stroke	1039 mm

## Drive

Maximum Travel Speed	5.2 km/h
Maximum Drawbar Pull	156.2 kN
Gradeability	35°/70%

## Swing Mechanism

Swing Speed	9.3 rpm
Swing Torque	44.7 kN·m

## Service Refill Capacities

Fuel Tank Capacity	290 L
Cooling System	24 L
Engine Oil (with filter)	13.5 L
Swing Drive (each)	2.4 L
Final Drive (each)	5 L
Hydraulic System Oil Capacity (including tank)	190 L
Hydraulic Tank Oil	121 L

## Track

Number of Shoes (each side)	44 pieces
Number of Track Rollers (each side)	7 pieces
Number of Carrier Rollers (each side)	2 pieces

## Sound Performance

ISO 6396	
Operator Sound	71 dB(A)
ISO 6395	
Spectator Sound	101 dB(A)

- Operator Sound – The operator sound level is measured according to the procedures specified in ISO 6394:1998, for cab offered by Caterpillar, when properly installed and maintained and tested with doors and windows closed.
- Exterior Sound – The labeled spectator sound power level is measured according to the test procedures and conditions specified in 2004/14/EC.
- 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 a noisy environment.

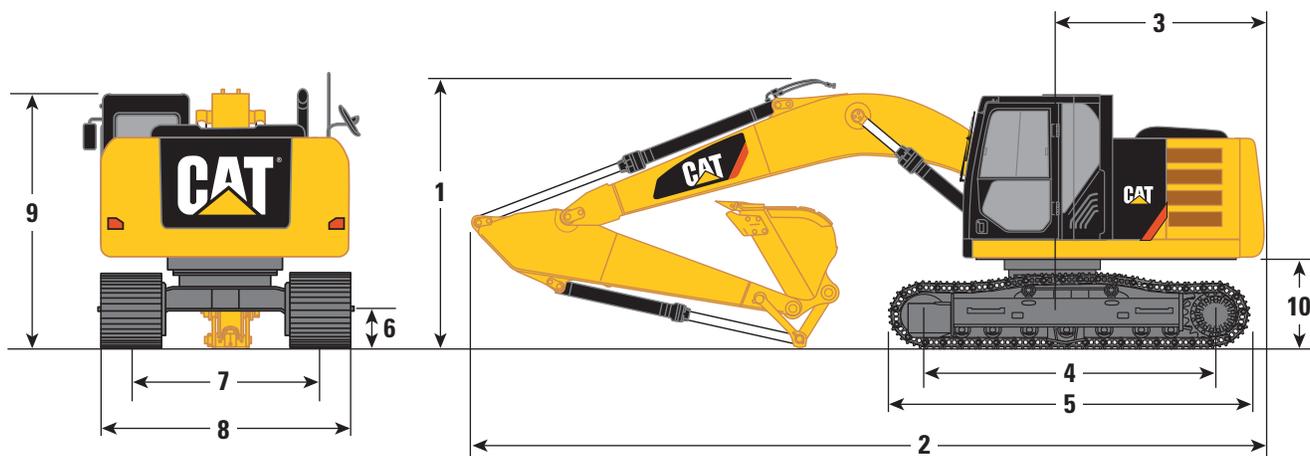
## Standards

Brakes	ISO 10265 2008
ROPS Cab	ISO 12117-2
Cab/OPG	ISO 10262 1998

# 316E L Hydraulic Excavator Specifications

## Dimensions

All dimensions are approximate.



Reach Boom  
5.1 m

VA Boom

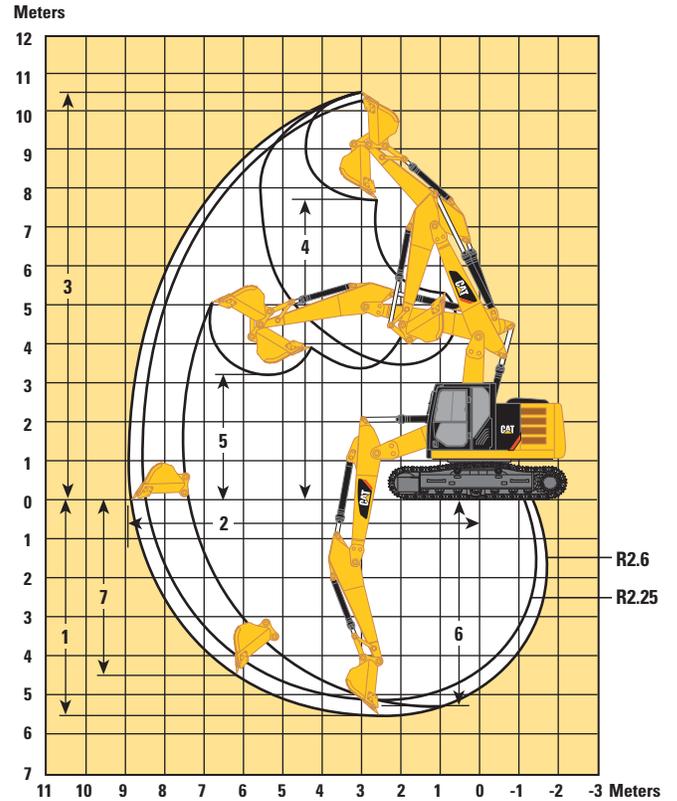
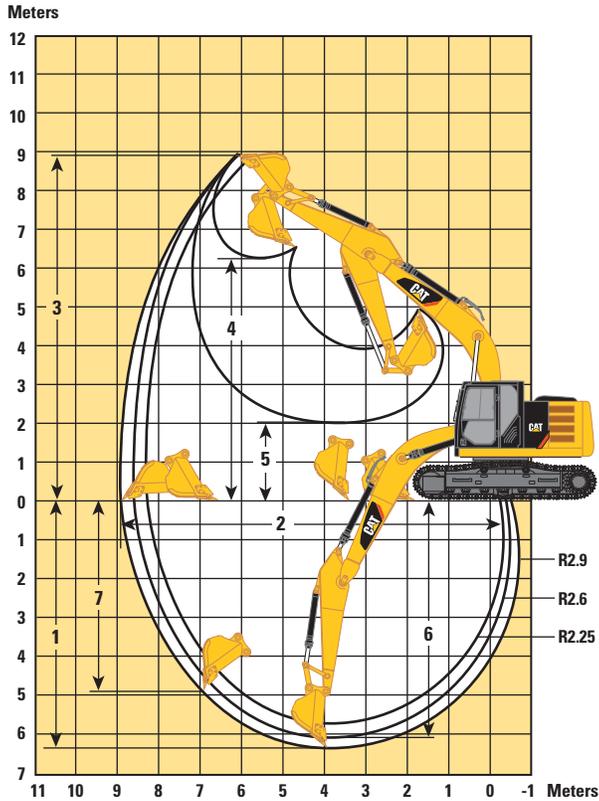
Stick	R2.9	R2.6	R2.25	R2.6	R2.25
<b>1</b> Shipping Height without Guard Rail*	3090 mm				
Shipping Height at Boom Top	3080 mm	3020 mm	2920 mm	2980 mm	2840 mm
Shipping Height with Guard Rail	3090 mm				
Shipping Height with Top Guard, without Guard Rail	3100 mm				
<b>2</b> Shipping Length	8580 mm	8570 mm	8550 mm	8630 mm	8640 mm
<b>3</b> Tail Swing Radius	2500 mm				
<b>4</b> Length to Center of Rollers	3170 mm				
<b>5</b> Track Length	3970 mm				
<b>6</b> Ground Clearance	440 mm				
<b>7</b> Track Gauge	1990 mm				
<b>8</b> Transport Width					
500 mm Shoes	2520 mm				
600 mm Shoes	2590 mm				
700 mm Shoes	2690 mm				
<b>9</b> Cab Height	2890 mm				
Cab Height with Top Guard	3100 mm				
<b>10</b> Counterweight Clearance**	1010 mm				
Bucket Capacity	0.76 m <sup>3</sup>				
Bucket Tip Radius	1380 mm				

\*Including shoe lug height.

\*\*Without shoe lug height.

## Working Ranges

All dimensions are approximate.



Stick	Reach Boom 5.1 m			VA Boom	
	R2.9	R2.6	R2.25	R2.6	R2.25
Maximum Slope	35°/70%	35°/70%	35°/70%	35°/70%	35°/70%
<b>1</b> Maximum Digging Depth	6390 mm	6090 mm	5740 mm	5510 mm	5170 mm
<b>2</b> Maximum Reach at Ground Level	8990 mm	8780 mm	8460 mm	8970 mm	8640 mm
<b>3</b> Maximum Cutting Height	8880 mm	8920 mm	8740 mm	10 560 mm	10 250 mm
<b>4</b> Maximum Loading Height	6270 mm	6280 mm	6110 mm	7870 mm	7550 mm
<b>5</b> Minimum Loading Height	2000 mm	2300 mm	2650 mm	3290 mm	3590 mm
<b>6</b> Maximum Depth Cut for 2440 mm Level Bottom	6160 mm	5870 mm	5500 mm	5390 mm	5030 mm
<b>7</b> Maximum Vertical Wall Digging Depth	4910 mm	4930 mm	4490 mm	4480 mm	4100 mm
Bucket Capacity	0.76 m <sup>3</sup>				
Bucket Tip Radius	1380 mm				

# 316E L Hydraulic Excavator Specifications

## Operating Weight and Ground Pressure

	700 mm		600 mm		500 mm	
	Triple Grouser Shoes		Triple Grouser Shoes		Triple Grouser Shoes	
	kg	kPa	kg	kPa	kg	kPa
Reach Boom – 5.1 m						
R2.9	17 800	36	17 600	42	17 300	49
R2.6	17 700	36	17 500	41	17 300	49
R2.25	17 700	36	17 500	41	17 200	49
VA Boom						
R2.6	18 700	38	18 500	44	18 200	52
R2.25	18 660	38	18 400	44	18 200	52

All weights are rounded up to nearest 100 kg including General Duty 0.76 m<sup>3</sup> bucket (610 kg).

Actual weight will depend on final machine configuration.

## Major Component Weights

	kg
Base Machine (with boom cylinder, without counterweight, front linkage and track)	5720
Long Undercarriage	3770
Counterweight – 2.8 mt	2800
Boom (includes lines, pins and stick cylinder)	
Reach Boom – 5.1 m	1320
VA Boom	1850
Stick (includes lines, pins, bucket cylinder, and bucket linkage)	
R2.9	910
R2.6	840
R2.25	810
Track Shoe (Long/per two tracks)	
500 mm Triple Grouser	2190
600 mm Triple Grouser	2420
700 mm Triple Grouser	2650

All weights are rounded up to nearest 10 kg except for buckets. Kg was rounded up separately so some of the kg do not match.

Base machine includes 75 kg operator weight, 90% fuel weight, and undercarriage with center guard.

Actual weight will depend on final machine configuration.

## Bucket and Stick Forces

	Reach Boom 5.1 m			VA Boom	
Stick	R2.9	R2.6	R2.25	R2.6	R2.25
	kN	kN	kN	kN	kN
General Duty					
Bucket Digging Force (ISO)	111	111	111	135	135
Stick Digging Force (ISO)	75	80	88	80	88
Severe Duty					
Bucket Digging Force (ISO)	111	111	111	134	134
Stick Digging Force (ISO)	75	80	88	80	88
<b>CW-30</b>					
General Duty					
Bucket Digging Force (ISO)	101	101	101	123	123
Stick Digging Force (ISO)	73	78	85	78	85
Heavy Duty					
Bucket Digging Force (ISO)	101	101	101	123	123
Stick Digging Force (ISO)	73	77	85	77	85
<b>CW-30S</b>					
General Duty					
Bucket Digging Force (ISO)	100	100	100	121	121
Stick Digging Force (ISO)	72	77	85	77	85
Heavy Duty					
Bucket Digging Force (ISO)	101	101	101	123	123
Stick Digging Force (ISO)	73	77	85	77	85

# 316E L Hydraulic Excavator Specifications

## Reach Boom Lift Capacities



Load Point Height



Load at Maximum Reach



Load Radius Over Front



Load Radius Over Side

**Boom** – 5.1 m

**Counterweight** – 2.8 mt

**Bucket** – None

**Stick** – R2.9

**Shoes** – 500 mm triple grouser

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
														
7.5 m	kg											*2950	*2950	5.08
6.0 m	kg							*3650	3350			*2650	*2650	6.43
4.5 m	kg							*4050	3300			*2550	2400	7.23
3.0 m	kg			*8000	*8000	*5500	4800	*4600	3150	*3300	2200	*2650	2150	7.66
1.5 m	kg			*7100	*7100	*6900	4450	4850	3000	3500	2150	*2850	2050	7.77
Ground Line	kg			*7050	*7050	7300	4200	4750	2850	3450	2100	*3200	2050	7.58
-1.5 m	kg	*5700	*5700	*10 100	7550	7200	4100	4650	2800			3700	2250	7.07
-3.0 m	kg	*9300	*9300	*11 100	7650	7200	4150	4700	2800			4550	2750	6.16
-4.5 m	kg			*8550	7950	*5700	4350					*5550	4200	4.60

**Boom** – 5.1 m

**Counterweight** – 2.8 mt

**Bucket** – None

**Stick** – R2.9

**Shoes** – 700 mm triple grouser with step

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
														
7.5 m	kg											*2950	*2950	5.08
6.0 m	kg							*3650	3450			*2650	*2650	6.43
4.5 m	kg							*4050	3350			*2550	2500	7.23
3.0 m	kg			*8000	*8000	*5500	4950	*4600	3200	*3300	2300	*2650	2200	7.66
1.5 m	kg			*7100	*7100	*6900	4550	5000	3050	3600	2200	*2850	2100	7.77
Ground Line	kg			*7050	*7050	7500	4300	4850	2950	3500	2150	*3200	2100	7.58
-1.5 m	kg	*5700	*5700	*10 100	7750	7350	4200	4800	2850			3800	2300	7.07
-3.0 m	kg	*9300	*9300	*11 100	7850	7400	4250	4800	2900			4650	2800	6.16
-4.5 m	kg			*8550	8100	*5700	4450					*5550	4300	4.60

\*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 within ± 5% for all available track shoes.

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

## Reach Boom Lift Capacities



Load Point Height



Load at Maximum Reach



Load Radius Over Front



Load Radius Over Side

**Boom – 5.1 m**

**Counterweight – 2.8 mt**

**Bucket – None**

**Stick – R2.6**

**Shoes – 500 mm triple grouser**

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
														
7.5 m	kg											*3250	*3250	4.76
6.0 m	kg							*3500	3300			*2850	*2850	6.18
4.5 m	kg					*4600	*4600	*4300	3300			*2750	2550	7.01
3.0 m	kg			*8850	8750	*5900	4800	*4800	3150			*2800	2250	7.44
1.5 m	kg					*7200	4450	4900	3000	*3400	2150	*3000	2150	7.56
Ground Line	kg			*6250	*6250	7300	4250	4750	2900			*3400	2200	7.36
-1.5 m	kg	*5750	*5750	*10 150	7650	7250	4150	4700	2850			3900	2400	6.84
-3.0 m	kg	*9950	*9950	*10 750	7800	7300	4200					4900	2950	5.89
-4.5 m	kg			*7750	*7750							*5400	4850	4.23

**Boom – 5.1 m**

**Counterweight – 2.8 mt**

**Bucket – None**

**Stick – R2.6**

**Shoes – 700 mm triple grouser with step**

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
														
7.5 m	kg											*3250	*3250	4.76
6.0 m	kg							*3500	3400			*2850	*2850	6.18
4.5 m	kg					*4600	*4600	*4300	3350			*2750	2600	7.01
3.0 m	kg			*8850	*8850	*5900	4900	*4800	3200			*2800	2300	7.44
1.5 m	kg					*7200	4550	5000	3050	*3400	2250	*3000	2200	7.56
Ground Line	kg			*6250	*6250	7500	4350	4900	2950			*3400	2250	7.36
-1.5 m	kg	*5750	*5750	*10 150	7850	7450	4300	4800	2900			4050	2450	6.84
-3.0 m	kg	*9950	*9950	*10 750	8000	*7450	4350					5000	3050	5.89
-4.5 m	kg			*7750	*7750							*5400	4950	4.23

\*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 within  $\pm 5\%$  for all available track shoes.

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

# 316E L Hydraulic Excavator Specifications

## Reach Boom Lift Capacities



Load Point Height



Load at Maximum Reach



Load Radius Over Front



Load Radius Over Side

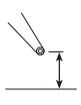
**Boom** – 5.1 m

**Counterweight** – 2.8 mt

**Bucket** – None

**Stick** – R2.25

**Shoes** – 500 mm triple grouser

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
														m
7.5 m	kg											*3950	*3950	4.23
6.0 m	kg											*3400	*3400	5.79
4.5 m	kg					*5000	*5000	*4600	3250			*3250	2750	6.67
3.0 m	kg					*6250	4700	5000	3100			*3350	2400	7.12
1.5 m	kg					*7450	4400	4850	3000			*3550	2300	7.24
Ground Line	kg			*5600	*5600	7300	4250	4750	2900			3800	2350	7.04
-1.5 m	kg	*6100	*6100	*10 800	7700	7250	4200	4700	2850			4250	2600	6.49
-3.0 m	kg			*10 150	7850	*7150	4250					5450	3300	5.48

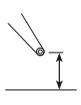
**Boom** – 5.1 m

**Counterweight** – 2.8 mt

**Bucket** – None

**Stick** – R2.25

**Shoes** – 700 mm triple grouser with step

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
														m
7.5 m	kg											*3950	*3950	4.23
6.0 m	kg											*3400	*3400	5.79
4.5 m	kg					*5000	*5000	*4600	3300			*3250	2800	6.67
3.0 m	kg					*6250	4850	*5050	3200			*3350	2450	7.12
1.5 m	kg					*7450	4500	5000	3050			*3550	2350	7.24
Ground Line	kg			*5600	*5600	7500	4350	4900	2950			3900	2400	7.04
-1.5 m	kg	*6100	*6100	*10 800	7900	7450	4300	4850	2950			4350	2650	6.49
-3.0 m	kg			*10 150	8050	*7150	4400					*5550	3400	5.48

\*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 within ± 5% for all available track shoes.

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

## Variable Angle Boom Lift Capacities



Load Point Height



Load at Maximum Reach



Load Radius Over Front



Load Radius Over Side

**Boom** – 2.6 m (Stub), 2.6 m (Fore)

**Counterweight** – 2.8 mt

**Bucket** – None

**Stick** – R2.6

**Shoes** – 500 mm triple grouser

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
9.0 m	kg											*5300	*5300	2.24
7.5 m	kg			*5350	*5350	*3450	*3450					*3450	*3450	5.05
6.0 m	kg			*4800	*4800	*3950	*3950	*3000	*3000			*3000	2900	6.41
4.5 m	kg			*5950	*5950	*4150	*4150	*3000	*3000			*2900	2350	7.21
3.0 m	kg	*14 550	*14 550	*6500	*6500	*5300	4700	*3450	3050	*2950	2150	*2900	2050	7.63
1.5 m	kg			*6800	*6800	*7100	4300	*4800	2900	*3250	2050	*3050	1950	7.74
Ground Line	kg	*5150	*5150	*5450	*5450	7250	4050	*4600	2750	*3400	2050	*3300	2000	7.55
-1.5 m	kg	*7400	*7400	*9200	7400	7150	4000	4650	2700			3750	2200	7.04
-3.0 m	kg	*13 050	*13 050	*9050	7600	*5700	4100					*4250	2850	5.89

**Boom** – 2.6 m (Stub), 2.6 m (Fore)

**Counterweight** – 2.8 mt

**Bucket** – None

**Stick** – R2.25

**Shoes** – 500 mm triple grouser

		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				m
7.5 m	kg			*5900	*5900	*4200	*4200					*4100	*4100	4.52
6.0 m	kg			*5700	*5700	*3550	*3550	*3550	3200			*3500	3200	6.00
4.5 m	kg			*6700	*6700	*4650	*4650	*3450	3200			*3350	2550	6.85
3.0 m	kg			*7300	*7300	*5850	4650	*3600	3050			*3350	2200	7.30
1.5 m	kg			*6650	*6650	7450	4250	*4300	2850			*3500	2100	7.41
Ground Line	kg	*6500	*6500	*5850	*5850	7250	4050	4700	2750			3650	2150	7.22
-1.5 m	kg	*9100	*9100	*8950	7500	7200	4050	4700	2750			4050	2400	6.68
-3.0 m	kg	*16 050	*16 050	*9050	7700	*5800	4150					*4850	3350	5.30

\*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 within  $\pm 5\%$  for all available track shoes.

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

# 316E L Hydraulic Excavator Specifications

## Work Tool Offering Guide\*

Boom Type	Reach Boom			VA Boom	
	R2.9	R2.6	R2.25	R2.6	R2.25
Hydraulic Hammer	H110Es H115Es H120Es	H110Es H115Es H120Es	H110Es H115Es H120Es	H110Es H115Es H120Es***	H110Es H115Es H120Es***
Multi-Processor	—	—	MP15***	—	—
Crusher	P315	P315	P315	—	—
Pulverizer	P215	P215	P215	—	—
Demolition and Sorting Grapple	G310B	G310B —	G310B G315B***	G310B —	G310B —
Mobile Scrap and Demolition Shear	S325**	S325B**	S325B**	—	—
Compactor (Vibratory Plate)	CVP75	CVP75	CVP75	CVP75	CVP75
Contractors' Grapple	G115B	G115B	G115B	G115B	G115B
Orange Peel Grapple					
Trash Grapple					
Thumbs					
Rakes					
Center-Lock Pin Grabber Coupler					
Dedicated Quick Coupler					

These work tools are available for the 316E L.  
Consult your Cat dealer for proper match.

\*Matches are dependent on excavator configurations. Consult your Cat dealer for proper work tool match.

\*\*Boom mount.

\*\*\*Pin-on only.

## Bucket Specifications and Compatibility

	Width	Capacity	Weight	Fill	Reach Boom			VA Boom	
	mm	m <sup>3</sup>	kg	%	R2.9	R2.6	R2.25	R2.6	R2.25
<b>Without Quick Coupler</b>									
General Duty (GD)	1100	0.80	601	100%	⊙	●	●	⊙	⊙
	1300	1.00	682	100%	X	X	X	X	X
	1400	1.09	712	100%	X	X	X	X	X
Severe Duty (SD)	1200	0.91	722	90%	⊖	⊙	⊙	⊖	⊖
Maximum load pin-on (payload + bucket)				kg	2095	2205	2375	1965	2120
<b>With Quick Coupler (CW 30/CW30s)</b>									
General Duty (GD)	600	0.35	431	100%	●	●	●	●	●
	750	0.49	464	100%	●	●	●	●	●
	900	0.62	524	100%	●	●	●	⊙	●
	1100	0.79	583	100%	⊖	⊙	⊙	⊖	⊖
	1200	0.91	633	100%	○	⊖	⊖	○	○
	1300	1.00	663	100%	○	○	⊖	◇	○
	1400	1.09	693	100%	X	X	X	X	X
Heavy Duty (HD)	1200	0.91	649	100%	○	⊖	⊖	○	○
	1300	1.00	681	100%	○	○	⊖	◇	○
	1400	1.09	712	100%	X	X	X	X	X
Maximum load with coupler (payload + bucket)				kg	1875	1985	2155	1745	1900

### Maximum Material Density:

- 2100 kg/m<sup>3</sup>
- ⊙ 1800 kg/m<sup>3</sup>
- ⊖ 1500 kg/m<sup>3</sup>
- 1200 kg/m<sup>3</sup>
- ◇ 900 kg/m<sup>3</sup>
- X Not Recommended

The above loads are in compliance with hydraulic excavator standard EN474, 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.

Bucket weight with General Duty tips.

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.

# 316E L Standard Equipment

## Standard Equipment

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

### ENGINE

- C4.4 ACERT diesel engine EU Stage IIIB
- Biodiesel capable
- Meets European Union Stage IIIB emission standards
- 2300 m altitude capability
- Electric priming pump
- Automatic engine speed control
- Economy and high power modes
- Two-speed travel
- Side-by-side cooling system (tilt-up ATAAC, swing-out A/C condenser)
- Radial seal air filter
- Primary filter with water separator and water separator indicator
- Standard battery, -18° C
- Screen filter in fuel line
- Secondary fuel filter

### HYDRAULIC SYSTEM

- Regeneration circuit for boom and stick
- Reverse swing dampening valve
- Automatic swing parking brake
- High-performance hydraulic return filter
- Boom lowering and stick lowering check valves

### CAB

- Pressurized operator station with positive filtration
- Mirror package
- Sliding upper door window (left-hand cab door)
- Glass-breaking safety hammer
- Removable lower windshield with in cab storage bracket
- Coat hook
- Beverage holder
- Literature holder
- Two stereo speakers
- Storage shelf suitable for lunch or toolbox
- Color LCD display with warning, filter/fluid change, and working hour information
- Adjustable armrest
- Height adjustable joystick consoles
- Neutral lever (lock out) for all controls
- Travel control pedals with removable hand levers
- Capability of installing two additional pedals
- Two power outlets, 10 amp (total)
- Laminated glass front window, 70/30 split (tempered glass for bottom front window)
- Sunscreen
- Seatbelt (50.8 mm)
- Windshield wipers

### UNDERCARRIAGE

- Grease Lubricated Track GLT2, resin seal
- Towing eye on base frame

### COUNTERWEIGHT

- 2.8 mt

### ELECTRICAL

- 80 amp alternator
- Circuit breaker
- Capability to electrically connect a beacon

### LIGHTS

- Working lights, cab mounted with time delay
- Halogen boom lights (left and right)
- Time delay function for boom light and cab light
- Exterior lights integrated into storage box

### SECURITY

- Cat one key security system
- Door locks
- Cap locks on fuel and hydraulic tanks
- Lockable external tool/storage box
- Signaling/warning horn
- Secondary engine shutoff switch
- Openable skylight for emergency exit
- Guardrail and handrail
- Rearview camera

## Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

### ENGINE

- Electric refueling pump with auto shut off
- Cold weather battery, -25° C

### HYDRAULIC SYSTEM

- Quick drains, engine and hydraulic oil (QuickEvac™)
- Auxiliary hydraulics
- Boom and stick High Pressure lines
- Boom and stick Medium Pressure lines
- Boom and stick Universal Quick Coupler lines
- Cat Bio hydraulic oil

### CAB

- Seat, high-back air suspension with heater
- Seat, high-back air suspension with heater and cooling
- Seat, high-back mechanical suspension
- Air pre-filter
- Left foot switch
- Windshield wiper, lower with washer
- Rain protector

### UNDERCARRIAGE

- 500 mm triple grouser shoes
- 600 mm triple grouser shoes
- 700 mm triple grouser shoes
- Full-length track guiding guard
- Center track guiding guard
- Segmented (2 piece) track guiding guard

### FRONT LINKAGE

- Quick coupler
- Bucket linkage, with lifting eye
- Reach Boom (5.1 m)
  - 2.9 m stick
  - 2.6 m stick
  - 2.25 m stick
- Variable Angle Boom
  - 2.6 m stick
  - 2.25 m stick

### LIGHTS

- HID lights, cab mounted with time delay

### SECURITY

- FOGS, bolt-on
- Travel alarm

### TECHNOLOGY

- Product Link
- Cat Grade Control

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)

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