

316E

Hydraulic Excavator



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 will continue that trend-setting standard.

The 316E 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 and the E Series family of excavators.

316E Hydraulic Excavator Specifications

Engine

Engine Model	Cat® C4.4 ACERT™
Engine Rated Power – ISO 14396	89 kW
Engine Rated Power – ISO 14396 (metric)	121 hp
Engine Rated Power – ISO 14396 (imperial)	119 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

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 (including tank)	190 L
Hydraulic Tank	106 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.

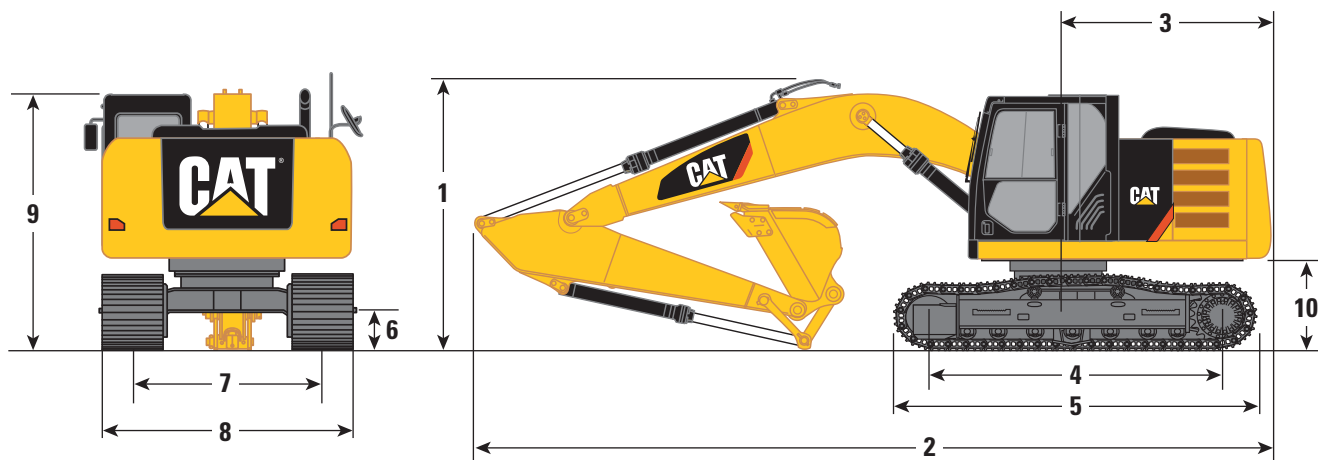
Standards

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

316E Hydraulic Excavator Specifications

Dimensions

All dimensions are approximate.



Reach Boom
5.1 m

VA Boom

Stick	R2.6	R2.25	R2.6	R2.25
	mm	mm	mm	mm
1 Shipping Height without Guard Rail*	3180	3180	3180	3180
Shipping Height with Guard Rail	3180	3180	3180	3180
Shipping Height with Top Guard, without Guard Rail	3180	3180	3180	3180
2 Shipping Length	8570	8550	8630	8640
3 Tail Swing Radius	2500	2500	2500	2500
4 Length to Center of Rollers	3170	3170	3170	3170
5 Track Length	3970	3970	3970	3970
6 Ground Clearance	440	440	440	440
7 Track Gauge	1990	1990	1990	1990
8 Transport Width				
500 mm Shoes	2520	2520	2520	2520
600 mm Shoes	2590	2590	2590	2590
700 mm Shoes	2690	2690	2690	2690
9 Cab Height	2890	2890	2890	2890
Cab Height with Top Guard	3100	3100	3100	3100
10 Counterweight Clearance**	1010	1010	1010	1010

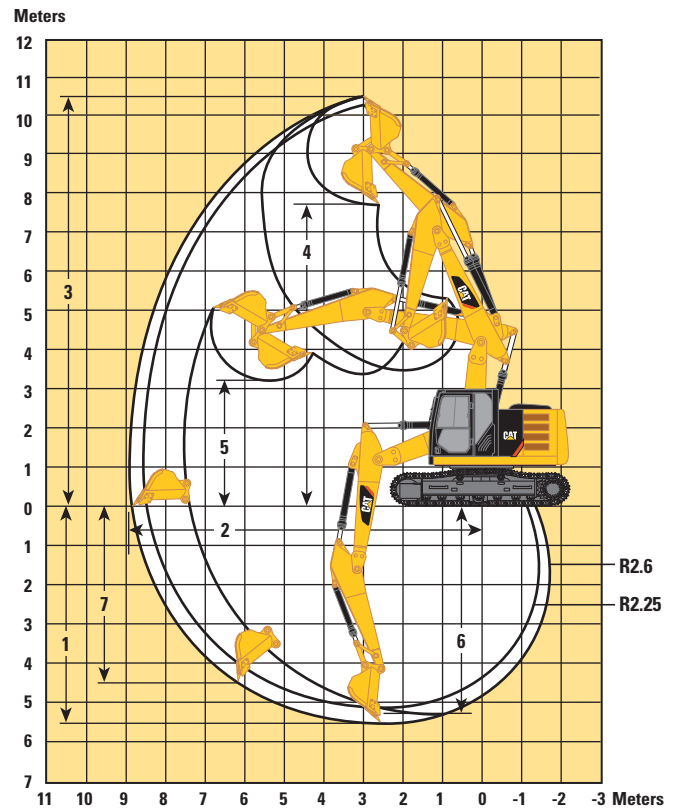
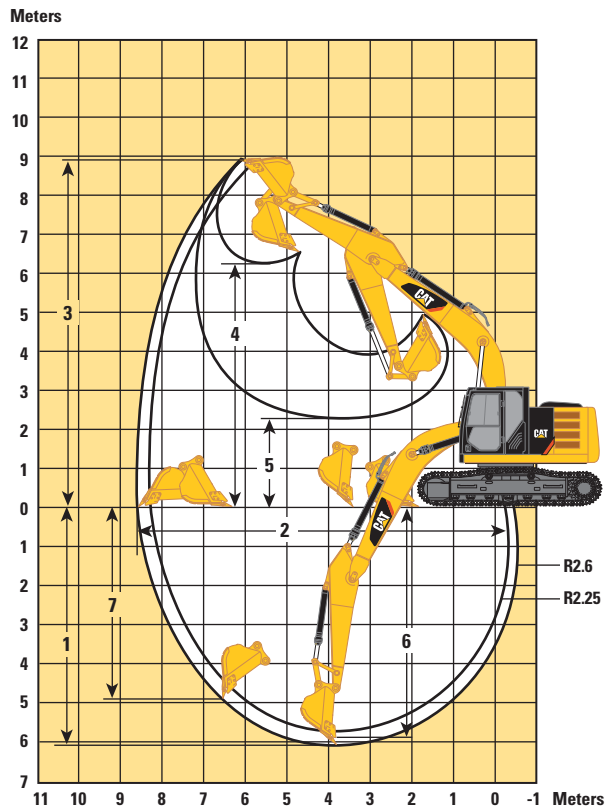
*Including shoe lug height.

**Without shoe lug height.

316E Hydraulic Excavator Specifications

Working Ranges

All dimensions are approximate.



Reach Boom
5.1 m

VA Boom

Stick	Reach Boom 5.1 m		VA Boom	
	R2.6 mm	R2.25 mm	R2.6 mm	R2.25 mm
1 Maximum Digging Depth	6090	5740	5510	5170
2 Maximum Reach at Ground Level	8780	8460	8970	8640
3 Maximum Cutting Height	8920	8740	10 560	10 250
4 Maximum Loading Height	6280	6110	7870	7550
5 Minimum Loading Height	2300	2650	3290	3590
6 Maximum Depth Cut for 2440 mm Level Bottom	5870	5500	5390	5030
7 Maximum Vertical Wall Digging Depth	4930	4490	4480	4100

316E 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						
R2.6	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 m³ bucket (610 kg).

VA Boom weights include AUX lines.

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)	
R2.6	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.

316E Hydraulic Excavator Specifications

Bucket and Stick Forces

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

316E 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 – R2.6

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















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.

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

316E 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 – R2.6

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 – R2.25

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

*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.

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316E Hydraulic Excavator Specifications

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

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316E Hydraulic Excavator Standard Equipment

Work Tool Offering Guide*

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

These work tools are available for the 316E.
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.

316E Hydraulic Excavator Standard Equipment

Standard Equipment

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

ENGINE

- C4.4 diesel engine
- 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
- Starting kit, -18° C
- Screen fuel filter
- Secondary fuel filter

HYDRAULIC SYSTEM

- Regeneration circuit for boom and stick
- Reverse swing dampening valve
- Automatic swing parking brake
- High-performance hydraulic return filter
- Capability of installing HP stackable valve and medium and QC valve
- Capability of installing additional auxiliary pump and circuit
- Capability of installing boom lowering control device and stick lowering check valve
- Capability of installing Cat Bio hydraulic oil

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 upper window and tempered other windows
- Sunscreen

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

- Boom light with time delay
- 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
- Rearview camera

316E Hydraulic Excavator

Optional Equipment

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

ENGINE

- Electric refueling pump with auto shut off
- Starting kit, cold weather, -25° C

HYDRAULIC SYSTEM

- Quick drains, engine and hydraulic oil (QuickEvac™)
- Auxiliary hydraulics
- Boom and stick lines
- High-pressure line
- Medium-pressure line
- Cat quick coupler line – high- and medium-pressure capable
- One-way circuit
- Common circuit

CAB

- Seat, high-back air suspension with heater
- Seat, high-back mechanical suspension
- Air pre-filter
- Travel alarm
- Left foot switch
- Straight travel pedal
- Windshield wiper, lower with washer

UNDERCARRIAGE

- 500 mm triple grouser shoes
- 600 mm triple grouser shoes
- 700 mm triple grouser shoes
- Guard, full length for long undercarriage
- Center track guiding guard
- Segmented (2 piece) track guiding guard

FRONT LINKAGE

- Quick coupler
- Bucket linkage, with lifting eye
- 5.1 m reach boom
- Variable Angle boom
- 2.25 m heavy duty stick
- 2.6 m heavy duty stick

LIGHTS

- Working lights, cab mounted with time delay
- HID lights, cab mounted with time delay

SECURITY

- Operator Protective Guards (OPG), bolt-on

TECHNOLOGY

- Product Link
- Cat Grade Control

Materials and specifications are subject to change without notice.

Featured machines in photos may include additional equipment.

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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