

VOLVO EXCAVATORS

# EC300D

33.1 t 231 hp



# A QUALITY NEW DESIGN.



## New D-series styling

The EC300D boast new, modern D-series styling consistent with Volvo's product family.



## New I-ECU

The large, color LCD monitor clearly displays machine status information for easy operation and increased productivity.



## ECO mode

Volvo's unique ECO mode contributes to up to 5% of the machine's total improved fuel efficiency without any loss of performance.



## Cab design

All-around visibility, safety, comfort and easy to access controls are at the center of Volvo's operator environment.



## Service access

Large doors and engine hood provide easy service access. Centralized filters and greasing points allow regular checks to be done faster.



## Improved structure

The boom and arm have been reinforced in critical areas to handle the increased working power of these machines.



## Boom float

This option enables the boom to 'float' over the ground for easy controllability in grading and breaker operations.

## Increased power

Benefit from increased power, digging force and faster cycle times for more productivity.

## New work modes

Volvo's unique work mode system now includes the G4 mode for optimum fuel efficiency and performance.



## Electro-hydraulic system

New electro-hydraulic system and MCV use intelligent technology to control on-demand flow for improved performance and efficiency.



## Customer solutions

Volvo provides the right solutions throughout the entire life cycle of your machine to lower total cost of ownership

## Engine D7

Premium Volvo D7 diesel engine built with proven, advanced technology for high performance and low fuel consumption.

## Optional track guard

When working in harsh environments, heavy-duty, bolt-on, full track roller guards protect the bottom rollers and links from debris.

# VOLVO EC300D IN DETAIL.

## EC300D

### Engine

The engine, which provide excellent performance, is equipped with six cylinder, vertical, electronic-controlled high pressure fuel injectors, internal EGR\* (\*for certain regions), 7 liter in-line waste gate turbo charger, air-to-air intercooler and water cooled diesel engine type.

Engine	Volvo	D7
Max power at	r/s / r/min	30 / 1 800
Net, ISO 9249/ SAE J1349	kW / hp	169 / 230
Gross, ISO 14396/ SAE J1995	kW / hp	170 / 231
Max torque at	Nm / r/min	1 080 / 1 350
No. of cylinders		6
Displacement	l	7.1
Bore	mm	108
Stroke	mm	130

### Electrical system

High-capacity electrical system that is well protected. Waterproof double-lock harness plugs are used to secure corrosion-free connections. The main relays and solenoid valves are shielded to prevent damage. The master switch is standard.

Advanced monitoring of machine functions and important diagnostic information is displayed on the I-ECU.

Voltage	V	24
Battery capacity	V / Ah	2 x 12 / 200
Alternator	V / Ah	28 / 80
Start motor	V / kW	24 / 5.5

### Swing system

The swing system uses an axial piston motors, driving a planetary gearbox for maximum torque. An automatic holding brake and anti-rebound valve are standard.

Max. slew speed	r/min	10.7
Max. slew torque	kNm	110.9

## EC300D

### Drive

Each track is powered by an automatic two-speed shift travel motor. The track brakes are multi-disc, spring-applied and hydraulic released. The travel motor, brake and planetary gears are well protected within the track frame.

Max. travel speed (low / high)	km/h	3.4 / 5.4
Max. drawbar pull	kN	247
Gradeability	°	35

### Undercarriage

The undercarriage has a robust X-shaped frame. Greased and sealed track chains are standard.

	EC300DL
Track pads	2 x 50
Link pitch	203
Shoe width, triple grouser	600/700/ 800/900
Shoe width, triple grouser (HD)	600
Shoe width, double grouser	700
Bottom rollers	2 x 9
Top rollers	2 x 2

	EC300DLR
Track pads	2 x 50
Link pitch	203
Shoe width, triple grouser	600/800/ 900
Shoe width, triple grouser (HD)	600
Shoe width, double grouser	-
Bottom rollers	2 x 9
Top rollers	2 x 2

		<b>EC300D</b>
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### Hydraulic system

The new electro-hydraulic system and new MCV (main control valve) use intelligent technology to control on-demand flow for high-productivity, high-digging capacity and excellent fuel economy. The summation system, boom, arm and swing priority along with boom, arm and bucket regeneration provides optimum performance.

The following important functions are included in the system:

**Summation system:** Combines the flow of both hydraulic pumps to ensure quick cycle times and high productivity.

**Boom priority:** Gives priority to the boom operation for faster raising when loading or performing deep excavations.

**Arm priority:** Gives priority to the arm operation for faster cycle times in leveling and for increased bucket filling when digging.

**Swing priority:** Gives priority to swing functions for faster simultaneous operations.

**Regeneration system:** Prevents cavitation and provides flow to other movements during simultaneous operations for maximum productivity.

**Power boost:** All digging and lifting forces are increased.

**Holding valves:** Boom and arm holding valves prevent the digging equipment from creeping.

Main pump, Type 2 x variable displacement axial piston pumps		
Maximum flow	l/min	2 x 263
Pilot pump, Type Gear pump		
Maximum flow	l/min	1 x 18
Relief valve setting		
Implement	MPa	33.3/36.3
Travel circuit	MPa	36.3
Slew circuit	MPa	27.9
Pilot circuit	MPa	3.9

### Hydraulic cylinders

Mono boom		2
Bore x Stroke	ø x mm	140 x 1 480
2 piece boom		1
Bore x Stroke	ø x mm	170 x 1 300
Arm		1
Bore x Stroke	ø x mm	150 x 1 745
Bucket		1
Bore x Stroke	ø x mm	140 x 1 140
Bucket for long reach		1
Bore x Stroke	ø x mm	100 x 865

		<b>EC300D</b>
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### Service refill capacities

Fuel tank	l	470
Hydraulic system, total	l	400
Hydraulic tank	l	195
Engine oil	l	32
Engine coolant	l	41
Swing reduction unit	l	6
Travel reduction unit	l	2 x 6.8

### Cab

The operator's cab has easy access via a wide door opening. The cab is supported on hydraulic dampening mounts to reduce shock and vibration levels. These along with sound absorbing lining provide low noise levels. The cab has excellent all-round visibility. The front windshield can easily slide up into the ceiling, and the lower front glass can be removed and stored in the side door.

**Integrated air-conditioning and heating system:** The pressurized and filtered cab air is supplied by an automatically-controlled fan. The air is distributed throughout the cab from 14 vents.

**Ergonomic operator's seat:** The adjustable seat and joystick console move independently to accommodate the operator. The seat has nine different adjustments plus a seat belt for the operator's comfort and safety.

### Sound Level

Sound level in cab according to ISO 6396

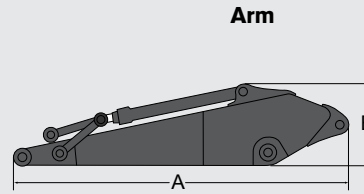
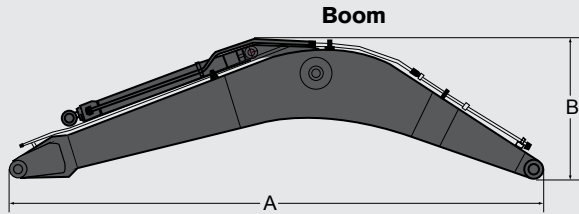
LpA	dB(A)	71
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External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009

LwA	dB(A)	105
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# SPECIFICATIONS.

## DIMENSIONS



### EC300D

Description	Unit		XD	2 piece	Long reach	Description	Unit			XD		Long reach	
Boom	m	<b>6.2</b>	<b>6.2</b>	<b>6.2</b>	<b>10.2</b>	Arm	m	<b>2.55</b>	<b>2.75</b>	<b>3.05</b>	<b>3.05</b>	<b>3.7</b>	<b>7.9</b>
Length (A)	mm	6 430	6 430	6 430	10 430	Length (A)	mm	3 710	3 870	4 150	4 150	4 900	9 060
Height (B)	mm	1 680	1 680	1 590	1 620	Height (B)	mm	1 010	1 010	1 010	1 010	1 050	1 065
Width	mm	770	770	770	770	Width	mm	545	545	545	545	545	545
Weight	kg	2 810	2 910	3 450	3 410	Weight	kg	1 530	1 590	1 590	1 690	1 660	1 730

\* Includes cylinder, piping and pin, excludes boom cyl. Pin

\* Includes cylinder, linkage and pin

## BUCKET SELECTION GUIDE

Bucket type	Capacity	Cutting width	Tip radius	Weight	Teeth	EC300DL			
						6.2m Boom			
						600mm shoe, 5 500kg counterweight			
	L	mm	mm	kg	EA	2.55m	3.05m	3.7m	
Direct fit Buckets	General purpose	550	600	1 627	826	3	C	C	C
		1 140	1 200	1 627	1 136	5	C	C	C
		1 320	1 350	1 627	1 215	5	C	C	C
		1 510	1 500	1 627	1 312	5	C	C	B
		1 690	1 650	1 627	1 395	5	C	B	A
		1 760	1 700	1 627	1 453	6	C	B	A
	Heavy duty	1 010	1 100	1 627	1 154	5	D	D	D
		1 140	1 200	1 627	1 211	5	D	D	D
		1 320	1 350	1 627	1 297	5	D	D	C
		1 510	1 500	1 627	1 383	5	D	C	B
		1 690	1 650	1 627	1 469	5	C	B	A

Please consult with your Volvo dealer for the proper match of buckets and attachments to suit the application.

The recommendations are given as a guide only, based on typical operation conditions.

Bucket capacity based on ISO 7451, heaped material with a 1:1 angle of repose.

### Maximum material density

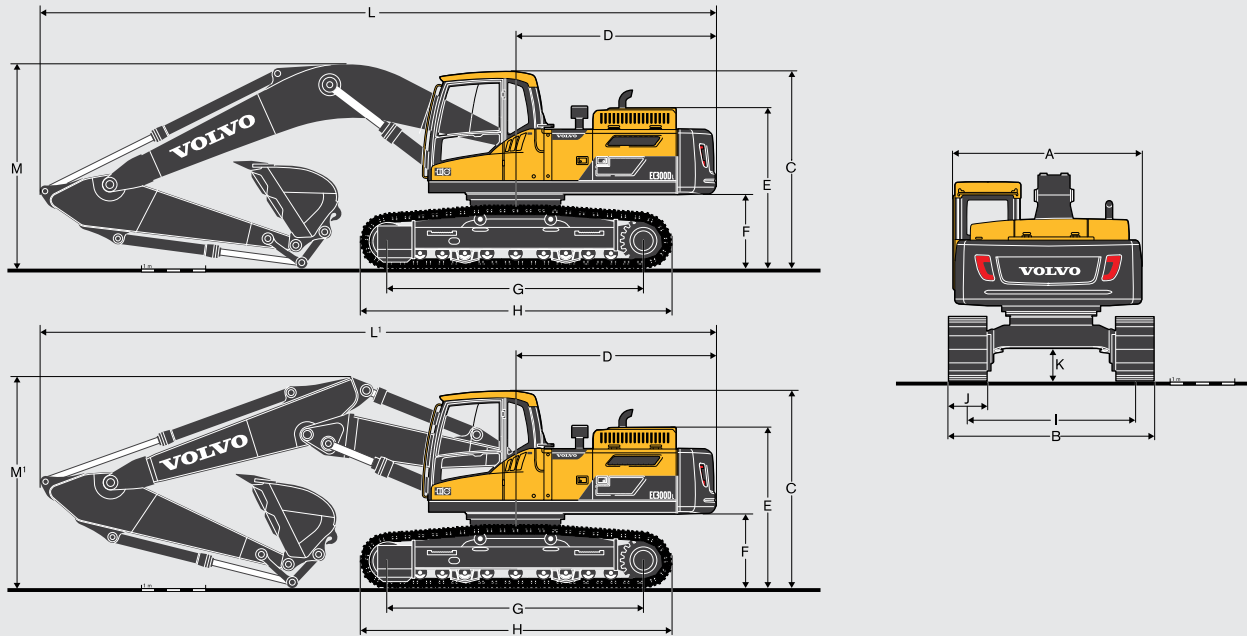
A	1200~1300 kg/m <sup>3</sup>	Coal, Caliche, Shale
B	1400~1600 kg/m <sup>3</sup>	Wet earth and clay, Limestone, Sandstone
C	1700~1800 kg/m <sup>3</sup>	Granite, Wet sand, Well blasted rock
D	1900 kg/m <sup>3</sup> ~	Wet mud, Iron ore

## MACHINE WEIGHTS AND GROUND PRESSURE

EC300DL	6.2m boom 3.05m arm 1 301kg (1 350l) bucket 5 100kg counterweight				6.2m boom 3.05m arm 1 301kg (1 350l) bucket 5 500kg counterweight				
	Description	Shoe width	Operating weight	Ground pressure	Overall width	Shoe width	Operating weight	Ground pressure	Overall width
		mm	kg	kPa	mm	mm	kg	kPa	mm
Triple grouser		600	29 840	57.6	3 190	600	30 240	58.3	3 190
		HD 600	30 040	58.0	3 190	HD 600	30 440	58.7	3 190
		700	30 400	50.3	3 290	700	30 800	50.9	3 290
		800	30 780	44.5	3 390	800	31 180	45.1	3 390
		900	31 150	40.1	3 490	900	31 550	40.6	3 490
Double grouser		700	30 550	50.5	3 290	700	30 950	51.2	3 290



## DIMENSIONS



Description	Unit	EC300DL				EC300DLR
		6.2 mono or 6.2 2 piece				10.2
Boom	m	2.55	2.75	3.05	3.7	7.9
A. Overall width of upper structure	mm	2 890	2 890	2 890	2 890	2 890
B. Overall width	mm	3 190	3 190	3 190	3 190	3 190
C. Overall height of cab	mm	3 090	3 090	3 090	3 090	3 090
D. Tail slew radius	mm	3 120	3 120	3 120	3 120	3 200
E. Overall height of engine hood	mm	2 510	2 510	2 510	2 510	2 510
F. Counterweight clearance *	mm	1 135	1 135	1 135	1 135	1 135
G. Tumbler length	mm	4 015	4 015	4 015	4 015	4 015
H. Track length	mm	4 870	4 870	4 870	4 870	4 870
I. Track gauge	mm	2 590	2 590	2 590	2 590	2 590
J. Shoe width	mm	600	600	600	600	600
K. Min. ground clearance *	mm	480	480	480	480	480
L. Overall length	mm	10 640	10 580	10 530	10 570	14 640
L'. Overall length	mm	10 635	-	10 570	10 570	-
M. Overall height of boom	mm	3 495	3 450	3 350	3 590	3 240
M'. Overall height of boom	mm	3 360	-	3 300	3 530	-

\* Without shoe grouser

1 2-piece boom

## LIFTING CAPACITY EC300DL

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting point	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		Max. reach		
		Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	mm		
Boom 6.2m	7.5 m	kg						*7 600	*7 600					*7 740	7 150	6 528
Arm 2.55m	6.0 m	kg						*7 920	*7 920	*7 700	5 580			*7 710	5 500	7 558
Shoe 600mm	4.5 m	kg						*8 990	7 760	*8 000	5 450			7 380	4 700	8 185
CWT 5 500kg	3.0 m	kg						*14 260	11 030	*10 370	7 290	8 310	5 230	6 810	4 290	8 500
	1.5 m	kg						*16 330	10 320	11 380	6 900	8 080	5 030	6 630	4 150	8 540
	0 m	kg						*16 890	10 080	11 110	6 660	7 920	4 890	6 830	4 250	8 308
	-1.5 m	kg			*12 830	*12 830	*16 440	10 090	11 040	6 600	7 900	4 860		7 500	4 640	7 779
	-3.0 m	kg			*20 420	*20 420	*15 070	10 260	11 150	6 700				9 080	5 580	6 883
	-4.5 m	kg			*16 190	*16 190	*12 070	10 660						*9 720	8 080	5 437

Notes: 1. Machine in "Fine Mode-F" (Power Boost) for lifting capacities. 2. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards. 3. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. 4. Rated loads marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load.

# VOLVO CONSTRUCTION EQUIPMENT



Volvo Construction Equipment is different. Our machines are designed, built and supported in a different way. That difference comes from an engineering heritage of over 175 years. A heritage of thinking first about the people who actually use the machines. About how to help them be safer, more comfortable, more productive. About the environment we all share. The result of that thinking is a growing range of machines and a global support network dedicated to helping you do more. People around the world are proud to use Volvo. And we're proud of what makes Volvo different.

Not all products are available in all markets. Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

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**VOLVO**

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