VOLVO

EC750D

Volvo Construction Equipment. Building Tomorrow

A passion for performance

At Volvo Construction Equipment, we're not just coming along for the ride. Developing products and services that raise productivity – we are confident we can lower costs and increase profits for industry experts. Part of the Volvo Group, we are passionate about innovative solutions to help you work smarter – not harder.

Helping you to do more.

Doing more with less is a trademark of Volvo Construction Equipment. High productivity has long been married to low energy consumption, ease of use and durability. When it comes to lowering life-cycle costs, Volvo is in a class of its own.

Designed to fit your needs.

There is a lot riding on creating solutions that are suited to the particular needs of different industry applications. Innovation often involves high technology – but it doesn't always have to. Some of our best ideas have been simple, based on a clear and deep understanding of our customers' working lives.

You learn a lot in over 190 years.

Over the years, Volvo has advanced solutions that have revolutionized the use of construction equipment. No other name speaks Safety louder than Volvo. Protecting operators, those around them and minimizing our environmental impact are traditional values that continue to shape our product design philosophy.

We're on your side.

We back the Volvo brand with the best people. Volvo is truly a global enterprise, one that is on standby to support customers quickly and efficiently – wherever they are.

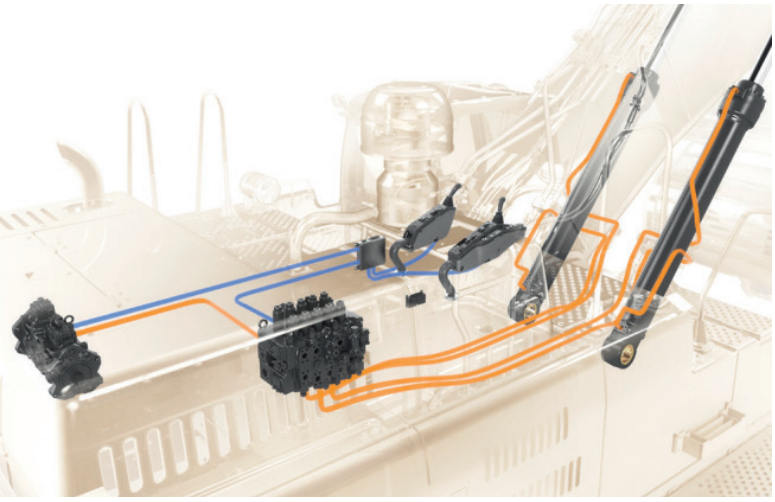
We have a passion for performance.

Gain more, pay less

Secure more profit and reduce your Total Cost of Ownership by increasing productivity and fuel efficiency. Do more for less on your job site with the EC750D's Volvo D16 engine, which delivers increased horsepower and fuel efficiency. The machine's electro hydraulic system provides high productivity and excellent control.

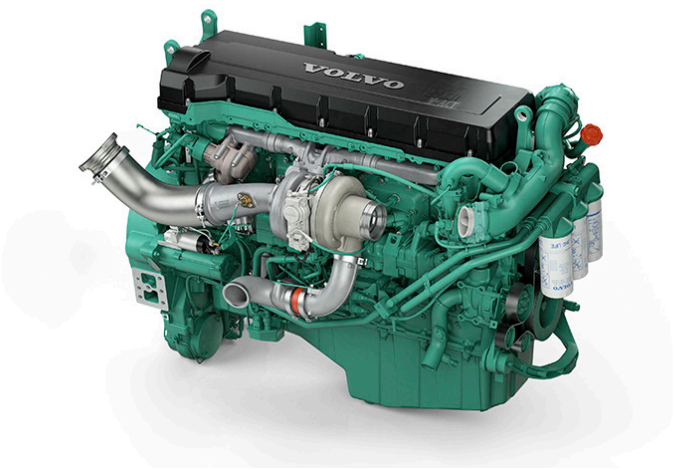
Electro hydraulic system

Enhance fuel efficiency while increasing productivity and performance. The new and improved Volvo designed electro-hydraulic system uses intelligent technology to control on-demand flow and reduces internal losses in th hydraulic circuit. This provides superior digging force, shortens cycle times and increases controllability.



Volvo D16 Engine

Featuring advanced technology and built on decades of experience, the updated Volvo D16 engine delivers high horsepower for the ultimate combination of high productivity and increased fuel efficiency. The high power, hydraulic pressure and flow enable the machine to perform at optimal capacity, loading more material for higher profitability.



Work modes

Volvo's unique integrated work mode system now includes the G4 mode for optimum fuel efficiency and performance, incorporating the work modes within the throttle control. When the operator selects the best work mode for the task at hand - I (idle), F (fine), G(General), H(Heavy) and P(Power) - the rpm is already set for maximum efficiency.

Volvo Cab

The comfortable, low noise environment and adjustable seat increases operator efficiency and capacity to improve production. Volvo's industry-leading cab boasts superior visibility from large expanses of front and side glass with slim cab pillars and the spacious environment provides ample storage and leg room.

A star performance

The EC750D's outstanding digging force gets the job done whether you're working at a mine, quarry or in heavy construction applications. The EC750D digs, swings and loads using the most efficient technology and its improved stability, tractive force and Eco Mode, delivers low fuel consumption and improved cycle times for a star performance.

Improved stability

Improve machine stability and work in more challenging environments with the machine's wide mechanically retractable track gauge and heavier counterweight, which both contribute towards a well-balanced and solid machine when operating in adverse terrains.

Digging force

Get the job done faster with ease because of the EC750D's constant high system pressure, which delivers greater digging force and reduced cycle times, particularly when working with hard and heavy materials.

ECO Mode

Save fuel without any loss of performance in most operating conditions. Volvo's unique ECO Mode optimizes the hydraulic system to reduce flow and pressure losses, for improved fuel efficiency. ECO Mode is automatically selected when the engine is put ON.

Improved cycle time

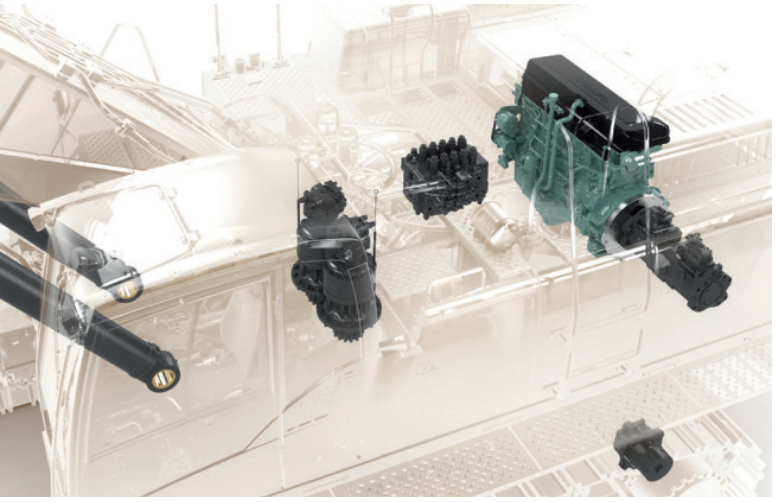
Get more done in less time. The Volvo hydraulic system, leads to a more powerful and combined pump flow to the bucket for smooth operation, improved cycle times and increased fuel efficiency.

Strong, solid and superior

Use the best machine for the job in tough working conditions. The EC750D is built using durable Volvo components, a reinforced structure and machine protection for a longer life in tough environments. Robust parts and easy service access increase uptime and keep maintenance to a minimum to reduce operating costs.

Durable Volvo Components

Volvo's tried and tested components have proven to be reliable even in the toughest applications, delivering maximum uptime. Volvo's commitment to its development process and quality levels ensures that its rigorous testing procedures produce the best quality components and machines.



Reinforced structure

The reinforced upper and lower frame are built to withstand tougher conditions for improved durability and reliability. The reinforced idler frame, track links and bottom rollers are designed and built for constant impact, leading to machine longevity and a sustained level of uptime in demanding applications.

Boom and Arm

The reinforced heavy-duty boom and arm built from high strength tensile steel increases reliability and machine uptime, even in s evere applications. Steel strips are welded under the arm to further increase protection.

Undercover protection

For increased durability and to protect components, the built-in heavy-duty plate provides additional protection to the underside of the machine in hard applications - preventing damage from rocks and debris.

Adding Value to your business

Being a Volvo Customer means having a complete set of services at your finger-tips. Volvo can offer you a long-term partnership, protect your revenue and provide a full range of customer solutions using high quality parts, delivered by passionate people. Volvo is committed to increasing the positive return on your investment and maximising uptime.

Complete Solutions

Volvo has the right solution for you. So why not let us provide all your needs throughout the whole life cycle of your machine? By listening to your requirements, we can reduce your total cost of ownership and increase your revenue.

Genuine Volvo Attachments

Volvo's heavy duty buckets, built using wear resistant plates, excel at digging compact materials including loose rock, hard clay and gravel. It's perfect for quarrying and mining applications and is made out of reinforced high quality durable materials for a long life and superior performance.

Repairs and Maintenance Agreements

The range of Repair & Maintenance Agreements offer preventive maintenance, total repairs and a number of uptime services. Volvo uses the latest technology to monitor machine operation and status, giving you advice to increase your profitability. By having a Repairs and Maintenance Agreement, you are in control of your service costs.

Volvo Connected Services

Stay connected to your machines via remote monitoring and experience control and efficiency with CareTrack. The optional ActiveCare combines machine monitoing and fleet utilisation reports to increase uptime of your fleet. Machine experts at the Volvo Uptime Center monitor your machines 24/7 to provide insights on the machines every week.

Maintenance made easy

Volvo machines feature built in serviceability for maximum machine uptime. Benefit from safe and convenient maintenance access and reduced service time. Enjoy maintenance made easy with Volvo.

Easy Service Access

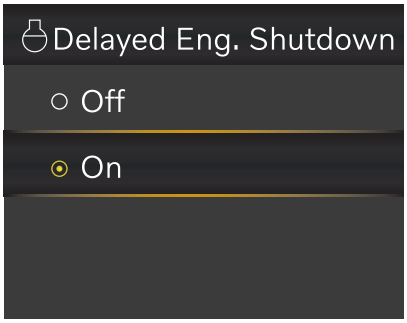
Grouped filters and the electric distribution box are easily accessed via the wide-opening compartment doors and the side walkways. Greasing points can all be accessed in one machine position.

Dual stage oil bath pre-cleaner

The oil bath air pre-cleaner provides 3-stage air filtration & prevents dirt from entering the engine. It helps reduce maintenance costs and improves reliability. It is recommended for machines working in dusty environments.

Delayed Engine Shutdown

The new Delayed Engine Shutdown allows the engine to idle for a certain time after the ignition has been turned off. It keeps the engine running until the engine is cool. When the engine has cooled down, the machine shall go to a complete shutdown.



Punched Metal Plates

Bolt on anti-slip plates are provided through the maintenance access areas on the deck and walkways for a good grip.

Tough it out

REPAIRS AND MAINTENANCE AGREEMENTS (RMA)

Repairs and maintenance agreements (RMA) offer preventive maintenance, total repairs and a number of uptime services.

Volvo Cab

The comfortable, low noise environment and adjustable seat increases operator efficiency and capacity to improve production.

VOLVO D16 ENGINE

Volvo D16 engine delivers high horse power for increased productivity and fuel efficiency.

Reinforced structure

The reinforced upper and lower frame are built to withstand tougher conditions for improved durability and reliability.

Easy service access

The EC750D's design facilitates easy cleaning, inspection and maintenance for increased uptime.

Volvo Safety Commitment

Safety is one of the Volvo Core Values. Protecting operators and those around them continue to shape our product design philosophy.

Standard safety features

10 LED lights including rear

Swing Lock System

Accumulator for Boom lowering

Battery cut-off switch

Hydraulic cut-off lever

Rear view camera

Baffle Plate between engine & pump compartment

Emergency Exit & Hammer cum Seat Belt Cutter

3-point contact access

Three-Point Seat Belt with reminder

Access way with Handrail

Pull-up type openable front upper window & removable front lower window

Falling Object Guard (FOG)

Side walkway

- Fire retardant electrical wires & hoses
- Travel Alarm

Optional safety features

Operator fatigue warning system

Manual Fire Extinguisher (Inside / (Outside the Cab

Automatic Fire Detection & (Suppression System (AFDSS

Audio Visual Alarm

Turbocharger guard

Fire resistant sleeves on hoses

Exhaust tube coating

- Hose rupture valve*

Volvo EC750DL in detail

Engine

The Volvo diesel engine delivers lower emissions, superior performance and fuel efficiency and low sound level. The engine is 4-stroke diesel engine with water cooling that meets EU Step 3 (EPA Tier 3) requirements. The engine uses precise high pressure electronically controlled fuel injectors, turbocharger, air-to-air intercooler.

Air Filter: 3-stage with oil bath pre-cleaner.

Automatic Idling System: Reduces engine speed to idle when the levers and pedals are not activated resulting in less fuel consumption and low cab noise level.

Engine (TIER III)	Volvo	D16E
Rated power at	r/min	1800
Gross, SAE J1995	kW / hp	393 / 534
Net, ISO 9249/DIN 6271	kW / hp	382 / 519
Max torque	Nm	2500
at engine speed	r/min	1340
No. of cylinders		6
Displacement	l	16.1
Bore x Stroke	mm x mm	144 x 165

Electrical System

Contronics, provides advanced monitoring of machine function and important diagnostic information. High capacity and well protected electrical system. Waterproof double-lock harness plugs are used to secure corrosion-free connections. Centrally located fuse and relay box use clearly arranged printed circuit board mounted, for easy access, behind the cab. The main relays and solenoid valves are shielded to prevent damage. A master switch is standard.

Voltage	V	24
Batteries	V	2 x 12
Battery capacity	Ah	210
Alternator	V / Ah	28 / 80

Hydraulic System

The hydraulic system, also known as the “Automatic Sensing Work Mode”, and MCV uses intelligent technology to control on-demand flow for high productivity, high digging capacity, high maneuvering precision and excellent fuel economy. The summation system, boom priority, arm priority, swing priority along with boom and arm 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 excavation.

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.

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

Main Pump - 2 x Variable displacement axial piston pumps		
Maximum flow	l/min	2 x 450
Pilot Pump - 1 x Gear Pump		
Maximum flow	l/min	1 x 34.5
Relief valve setting pressure		
Implement	Mpa	34.3
Travel circuit	Mpa	34.3
Slew circuit	Mpa	26.5
Pilot circuit	Mpa	3.9

Hydraulic Motors

Travel: Variable displacement axial piston motors

Slew: Fixed Displacement axial piston motor with mechanical brake

Hydraulic Cylinders

Boom		2
Bore x Stroke	Ø x mm	190 x 1790
Arm		1
Bore x Stroke	Ø x mm	215 x 2070
Bucket (ME)		1
Bore x Stroke	Ø x mm	200 x 1450

Swing system

The superstructure is slewed by two units of hydraulic piston motors driving a 2 stage planetary gear reduction box. Automatic swing holding brake and anti-rebound valve are equipped.

Max. Swing speed	r/min	7.0
Max. Swing torque	kN-m	275.4

Travel system

Drive device: Each track is powered by a 2 speed Hydraulic motor with 2 stage planetary reduction gears. The track brakes are multi-disc, spring-applied and hydraulically released.

Framework: The travel motor, brake and planetary gears are protected within an all-welded robust torsion box frame.

Track Gauge: Mechanically Retractable

Max. tractive force (net)	kN	478
Max. travel speed (low / high)	km/h	2.9 / 4.6
Gradeability	°	35

Undercarriage

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

Track shoes		2 x 48
Link pitch	mm	260.4
Shoe width	mm	650
Bottom rollers		2 x 8
Top rollers		2 x 3

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 a 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 automatically controlled fan. The air is distributed via 14 vents.

Ergonomic operator’s seat: The adjustable seat and joystick console move independently to accommodate the operator. The seat has 9 different adjustments and a seat belt for the operator’s comfort and safety.

Sound Level

Sound level in cab according to ISO 6396

LpA	dB(A)	74

Exterior sound level according to ISO 6395 & EU Noise Directive (2000/14/EC)

LwA	dB(A)	110

Service Refill

Fuel tank	l	840
Hydraulic System, total	l	655
Hydraulic tank	l	350
Engine oil	l	52
Engine coolant	l	66
Slew reduction unit	l	2 x 6.8
Travel reduction unit	l	2 x 13.5

Specifications

Machine Weights and Ground Pressure

Description	Unit	EC750DL		
Boom	m	7.1		
Arm	m	2.9		
Bucket	Cu.m	4.65 GP		
	kg	3 986		
Counter weight	kg	12 700		
Shoe width	mm	650		
Double Grouser		Operating weight	Ground pressure	Under carriage width
		kg	kPa	mm
		72 986	106.1	4 185

Bucket Selection Guide

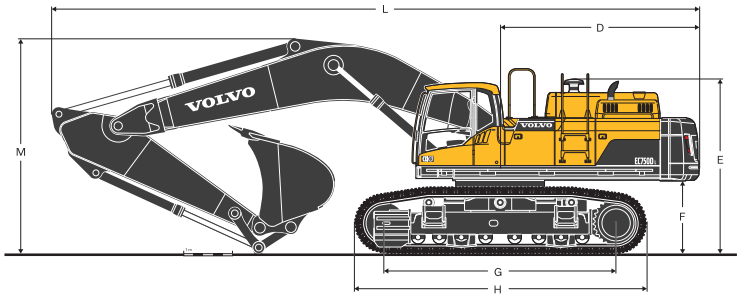
Direct fit Buckets		EC750DL with 12 700 kg CWT		
Boom	m	7.1		
Arm	m	2.9		
Bucket Type	Material Density	Bucket Capacity	Cutting width	Weight
	t/m³	Cu.m	mm	kg
General Purpose	1.6	5.16	2 490	5 080
	1.8	4.65	2 250	3 986
Heavy Duty	1.6	4.65	2 130	4 860
	1.8	4.26	2 000	4 370

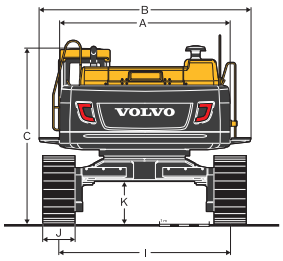
Note: Bucket size based on ISO 7451, heaped material with a 1:1 angle of repose. The recommendations are given as a guide only.

Dimensions

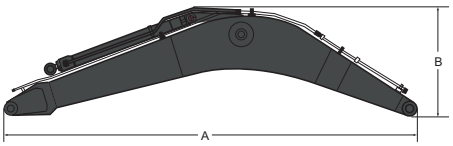
Description	Unit	EC750DL
Boom	m	7.1
Arm	m	2.9
A. Overall width of upper structure	mm	3 420
B. Overall width (inc. walkway)	mm	4 286
C. Overall height of cab	mm	3 520
D. Tail swing radius	mm	4 140
E. Overall height of air cleaner Overall height of engine hood	mm mm	3 590 3 310
F. Counterweight clearance*	mm	1 507
G. Tumbler length	mm	4 750
H. Track length	mm	5 990
I. Track gauge (extended) Track gauge (retracted)	mm mm	3 440 2 750
J. Shoe width	mm	650
K. Min. ground clearance*	mm	858
L. Overall length	mm	12 700
M. Overall height of boom	mm	4 800

*with shoe grouser





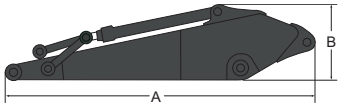
Boom



Boom	Unit	7.1m
Length	mm	7 440
Height	mm	2 430
Width	mm	1 100
Weight	kg	7 380

Includes arm cylinder, piping and pin *

Arm

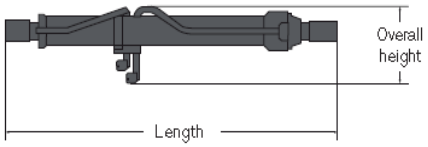


Arm	Unit	2.9m
Length	mm	4 280
Height	mm	1 530
Width	mm	740
Weight	kg	4 050

Includes bucket cylinder, linkage and pin *

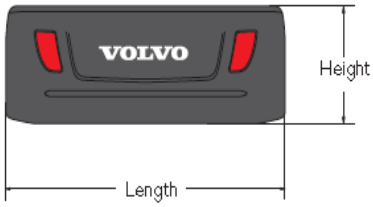
Specifications

Cylinder



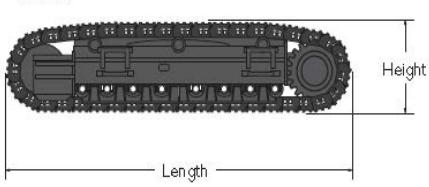
Length	Height	Width	Weight
mm	mm	mm	kg
2 525	560	370	630 kg x 2 set = 1 260 kg

Counterweight



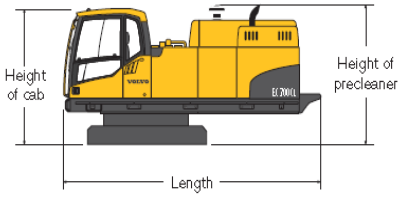
Length	Height	Width	Weight
mm	mm	mm	kg
3 420	1 280	800	12 700

Shoes



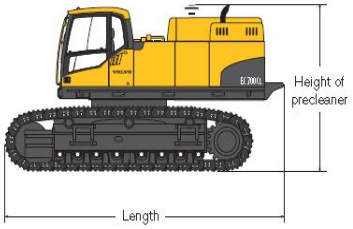
Shoe width	Length	Height	Overall Width	Weight / Unit
mm	mm	mm	mm	kg
650	5 990	1 375	1 080	10 600

Cab



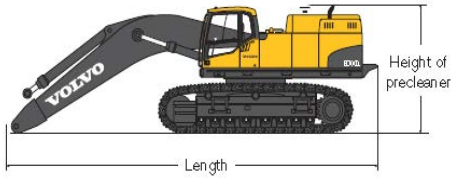
Length	Height of cab	Height of pre cleaner	Width	Weight
mm	mm	mm	mm	kg
5 600	2 655	2 735	3 430	22 400

Cab with shoes



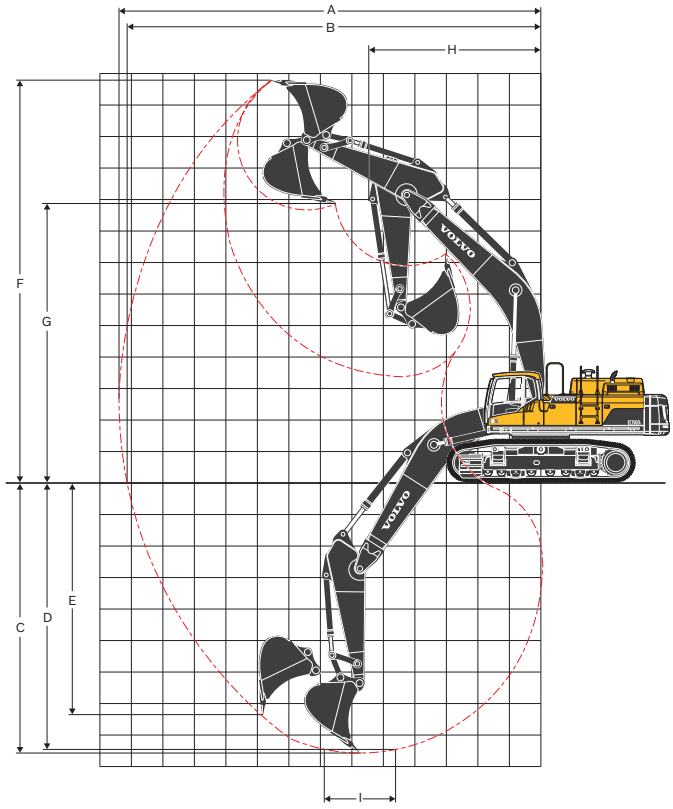
Shoe width	Length	Height of pre cleaner	Overall Width (retracted)	Weight
mm	mm	mm	mm	kg
650	6 830	3 590	3 495	43 600

Cab with shoes and boom



Boom	Shoe width	Length	Height of pre cleaner	Overall Width (retracted)	Weight
m	mm	mm	mm	mm	kg
7.1	650	10 770	3 590	3 495	52 240

Specifications



Working Ranges	Unit	EC750DL
Boom	m	7.1
Arm	m	2.9
A. Max. digging reach	mm	11 990
B. Max. digging reach on ground	mm	11 710
C. Max. digging depth	mm	7 610
D. Max. digging depth (I. 2.44 m level)	mm	7 460
E. Max. vertical wall digging depth	mm	6 100
F. Max. cutting height	mm	11 400
G. Max. dumping height	mm	7 430
H. Min. front swing radius	mm	5 350

Digging forces with direct fit bucket		Unit	EC750DL
Bucket radius		mm	2 215
Breakout force - bucket	ISO 6015	kN	389
	SAE J1179	kN	325
Tear out force - arm	ISO 6015	kN	326
	SAE J1179	kN	314
Rotation angle bucket		deg	174

LIFTING CAPACITY EC750DL

Lifting hook related to ground			4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		Max. reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	m
Boom: 7.1 m	9.0 m	kg	-	-	-	-	-	-	-	-	-	-	*15 430	*15 430	7.4
	7.5 m	kg	-	-	-	-	*15 840	*15 840	-	-	-	-	*14 540	*14 540	8.5
	6.0m	kg	-	-	-	-	*16 580	*16 580	*15 230	*14 730	-	-	*14 250	14 240	9.2
Arm: 2.9 m	4.5 m	kg	-	-	*21 630	*21 630	*17 790	*17 790	*15 620	*14 420	-	-	*14 410	12 950	9.6
	3.0 m	kg	-	-	*23 980	*23 980	*19 040	*18 400	*16 170	*14 020	-	-	*14 990	12 310	9.8
Shoe: 650 mm	1.5 m	kg	-	-	*25 350	*24 560	*19 910	*17 770	*16 530	*13 670	-	-	*15 180	12 190	9.7
	0 m	kg	*27 230	*27 230	* 25 450	*24 050	*20 080	*17 380	*16 350	*13 470	-	-	*15 270	12 590	9.5
CWT: 12700 kg	-1.5 m	kg	*30 940	*30 940	* 24 290	*23 960	*19 270	*17 270	-	-	-	-	*15 240	13 680	8.9
	-3.0 m	kg	*27 090	*27 090	* 21640	*21 640	* 16 850	*16 850	-	-	-	-	*14 860	*14 860	8.1
	-4.5 m	kg	*20 880	*20 880	* 16 430	*16 430	-	-	-	-	-	-	*13 490	*13 490	6.8

1. Lifting capacity at the arm end without bucket. For lifting capacity including bucket, subtract actual weight of the direct fit bucket or the bucket with quick coupler from the above values
2. Machine in “Fine Mode-F” (Power Boost) for lifting capacities.
3. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards.
4. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
5. Rated loads marked with an asterisk (*) are limited by hydraulic capacity rather than tipping load.

Equipment

Standard Equipment

Engine
Turbocharged, 4 stroke diesel engine with water cooling, direct injection and charged air cooler
Air filter with indicator
Air intake heater
Dual stage oil bath pre-cleaner
Electric engine shut-off
Fuel filter and combined water separator
Auto engine shut down
Delayed engine shut down
Alternator, 80 A
Electric / Electronic control system
Contronics (advanced mode control system / self diagnostic system)
Machine status indication
Engine speed sensing power control
Automatic idling system
Safety stop/start function
Adjustable LCD colour monitor
Master electrical disconnect switch
Engine restart prevention circuit
LED lights (10) : Frame - 2 / Boom - 4 / Cab Front - 2 / Cab Rear - 1 / Counterweight - 1
Travel alarm
Batteries, 2 x 12 V / 210 Ah
Start motor, 28 V / 6.6 kW
Hydraulic system
Automatic sensing hydraulic system (summation / boom, arm & swing priority)
ECO mode fuel saving technology
Boom and arm regeneration valves
Swing anti-rebound valves
Boom and arm holding valves
Multi-stage filtering system
Cylinder cushioning
Cylinder contamination seals
Auxiliary hydraulic valve
Work tool management system (up to 20 programmable memories)
Automatic two-speed travel motors
Hydraulic oil, ISO VG 68
Frame
Access way with handrail
Full height counterweight 12 700 kg
Tool storage area
Side walk-way
Under cover (heavy duty 4.5 mm)
Punched metal anti-slip plates
Undercarriage
Mechanically retractable track gauge
Hydraulic track adjusters
Greased and sealed track link
Track shoes - 650 mm with double grousers
Track Guard
Under cover (10 mm)
Cab and interior
Falling Object Guard (FOG), cab mounted
Silicon oil and rubber mounts with spring
Adjustable operator seat (fabric) with joystick control console
Control joysticks, semi-long
Heater & air-conditioner, automatic
Flexible antenna
Radio with MP3 & AUX
Hydraulic safety lock lever
Cab, all-weather sound suppressed, includes:
– LED lights
– Cup holders
– Door locks
– Tinted glass
– Floor mat
– Horn
– Large storage area
– Pull-up type front window
– Removable lower windshield
– 3 point seat belt with reminder
– Safety glass
– Sun screens, front, roof, rear
– Windshield wiper with intermittent feature
– Emergency exit
– Hammer cum seat-belt cutter
– Swing lock system
Rear view camera
Universal key
Digging equipment
Boom: ME 7.1 m
Arm: ME 2.9 m
Manual centralized lubrication
Service
Tool kit, full scale
Special tool for retractable frame
CARETRACK

Optional Equipment

Engine
Block heater: 240 V
Diesel coolant heater, 10 kW
Combined water separator with heater
Cyclone pre-cleaner
Fuel filler pump, 100 lpm with automatic shut-off
Electric
Anti-theft system
Rotating warning beacon
Hydraulic system
Hose rupture valve: boom, arm
Overload warning device
Straight travel pedal
Bucket conflux
Boom float function without/with HRV
Hydraulic piping:
– Hammer & shear, 1 and 2 pump flow
– Hammer & shear: variable flow and pressure pre-setting
– Additional return filter
– Slope & rotator
– Grapple
– Oil leak (drain) line
– Quick coupler piping
Frame
Full height counterweight: 12 700kg removal type
Rear view mirror on CWT
Undercarriage
Full track guard
Track shoes - 750 / 900 mm with double grousers
Cab and interior
One-piece fixed front windshield
Control joysticks with 4 switches each
Control joysticks with 3 switch & 1 proportional
Opening top hatch
Front rain shield
Falling object guard (FOG), frame mounted
Cab-mounted falling object protective structure (FOPS)
Safety net for front window
Smoker kit (ashtray and lighter)
Sunlight protection, roof (steel)
Lower wiper with intermittent control
Cleaning air gun
Side view camera
Specific key
Digging Equipment
Boom : 6.6 m, 7.7 m
Arm : 2.9 m, 3.55 m

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VOLVO

Volvo Construction Equipment