

**VOLVO EXCAVATOR**

# **EC700B LC**



**VOLVO**

# YOUR 70-TON PERFORMANCE EDGE

Aggressive. Rugged. Stout. Powerful. Balanced. Impressive credentials for any excavator. But what does it really mean on a demanding job site, where pure steel muscle meets unflinching earth? Just ask a Volvo EC700B operator. He'll sum it up in three words: "bring it on."

Meet the new gold standard in production digging. Built on extensive customer input and exhaustive research, the Volvo EC700B excavator has a commanding performance profile. Think you've seen production? Just watch.

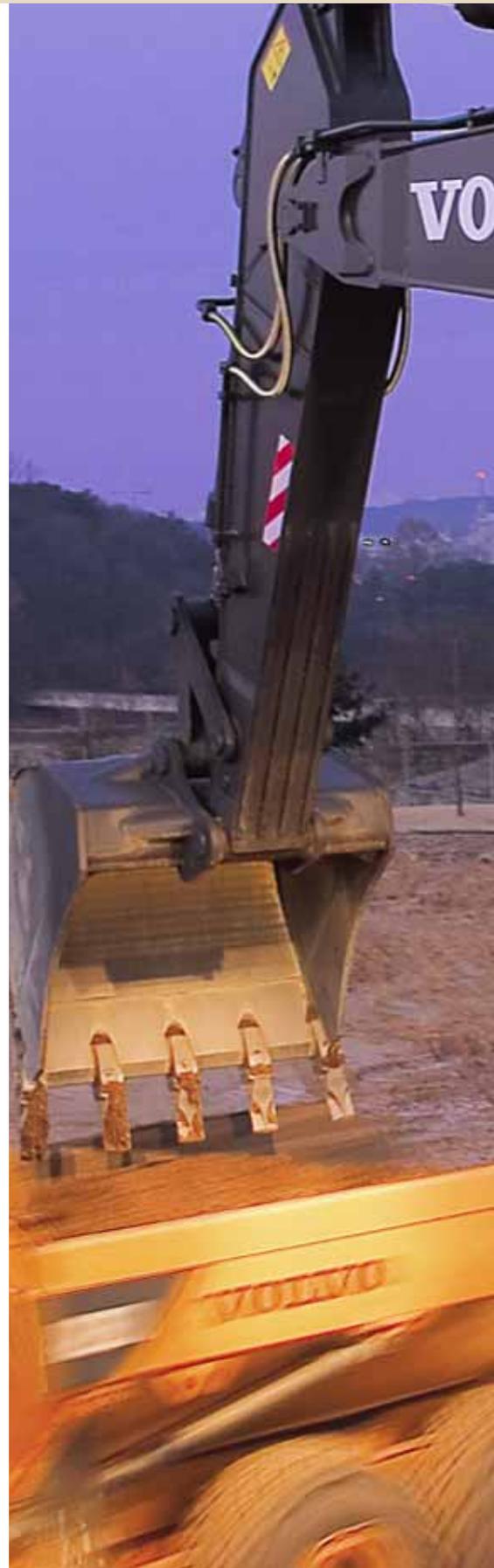
## **Big machine, bigger performance**

From the boom to the counterweight, this excavator's advantage comes from simply being built better. The six-cylinder Volvo engine leads its class in horsepower and is perfectly harmonized with the hydraulic system for smooth, responsive digging and lifting.

Key components are higher capacity and heavier gauge than you'd expect on a 70-ton machine. The main pump, swing motor and bearing and track rollers are from the 80-ton machine class, so you can count on durability and long machine life. The extra-duty undercarriage provides solid footing, enhanced by a wide track gauge and an extra-heavy counterweight.

The EC700B is perfectly matched for loading the Volvo A40D articulated hauler. With buckets and digging equipment that can be customized for the application, the EC700B will fill the 40-ton truck in four to six passes. Quick cycles mean more tons moved on every shift.

Contractors always look for an edge to make jobs more efficient and profitable. The EC700B is that performance edge. With the power and mettle to lead on any job site, the EC700B has earned the right to bear the name that means excavator performance — Volvo.





# MOVE MORE MATERIAL – THEN MOVE ON

In the battle between big iron and terra firma, the Volvo EC700B excavator is built to win. Conditions in the field are tough: production trenching, mass excavation, quarry loading, rock-face stripping. The EC700B is tougher — made to humble the most punishing material. With world-class Volvo power and advanced hydraulics, the EC700B powers through its cuts, then moves quickly and smoothly to load or dump.

With the EC700B, you'll move more material, move it faster, then move on.

## **Perfectly matched to Volvo A40D hauler**

Success at earthmoving relies on how efficiently an excavator loads haul trucks. The size, power and work flow of the EC700B make it an ideal partner for the industry-leading Volvo A40D articulated truck. Pass matching is critical to hold down cost per ton, and improve profit.

What makes such a good match for load-and-haul work? Start with stability from the wide-gauge track and heavy-duty counterweight. No bouncing or rocking that can slow cycles. High breakout forces, crowding forces and swing speed ensure the EC700B goes from trench to truck quickly and efficiently. The Volvo engine and hydraulics are well-matched for responsive control and high torque even at low RPMs. The result? The EC700B fills the A40D in four to six passes — an impressive Volvo team effort.

## **Adapts to job conditions**

The EC700B is as flexible as it is powerful. It can be equipped with work tools that match an array of ground conditions and different applications. For general excavation, the EC700B comes with a general-purpose boom and arm. For mass-excitation jobs, it is outfitted with a short boom and short arm. Where jobs demand more reach and depth, a long arm is available. A standard boom and short arm is the configuration for mining or quarry work.

To enhance the EC700B's solid footing, three types of double grouser shoes are available to deliver the best grip and traction in varying ground conditions.





# THE EC700B IS A FORCE TO CONTEND WITH

Earth, start quaking. Quarry rock — time to flinch. Overburden, buckle up. Heavy clay, be afraid. You may have seen excavators before — but not like this. Nothing like the Volvo EC700B. You're looking at 70 tons of steely resolve with an 80-ton resume and plenty of attitude. It moves material with power and purpose. It sips the fuel while cutting the trench and loading the bench. It wears like iron. And it won't back down. For the earthmover and rock-hauler, this is a true arsenal. The world of production digging may never be the same.

## **Stingy on fuel, high on performance**

The heart of this excavator is the contractor's biggest advantage. The Volvo D16 engine sets the industry standard for low fuel consumption. High-pressure fuel injectors and electronic engine controls squeeze the most power from each drop of diesel. The savings are noticeable, and bankable. To complete the package, Volvo Advanced Combustion Technology (V-ACT) keeps engine emissions low and exceeds environmental standards.

In the trenches, the EC700B is all about force. Digging force, arm crowding force and breakout force. It delivers plenty of all three, from the first cut through the stroke to the breakout and load. High forces mean quicker cycle times, more tons loaded and faster job completion.

The EC700B's wide and stable stance helps the excavator make most use of the power. Long, wide-gauge tracks, an extra-duty undercarriage and heavy counterweight help the machine hug the ground and anchor the dig.

High-capacity components help give the EC700B its aggressive performance profile and robust features. Look at the tracks, the robotically welded frame, the swing system and main pump. The name says 70-ton, but the rating says 80-ton. Larger-capacity components give the EC700B a critical edge in durability and performance.

It's a tightly integrated excavator, designed to cut, dig and load in extreme conditions. And it just gave production excavation a new name: Volvo.

**Digging:** Superior breakthrough and breakout means full loads



**Loading:** Built to load haul trucks in fewer passes



**Lifting:** Power and control for lift-and-set jobs



**Trenching:** Aggressive performance for long-run trenching





# FORGET DOWNTIME. LET'S TALK OVERTIME.

The daily job plan for high-demand earthmoving and material-loading jobs doesn't include downtime. An excavator can't take a break, or the whole job stops. Artics don't roll, material stays put and profitability goes south. The answer? The Volvo EC700B, forged from Volvo's long heritage building high-performance, reliable construction machines. With the EC700B, forget about down time. Let's talk overtime.

## **Rely on long-term performance**

When the operator climbs into the cab each day, he needs to know the excavator will get it done — no matter the task or site conditions. The machine owner wants even more: low-cost operation, predictable uptime and long life. With the EC700B, they can both bank on it.

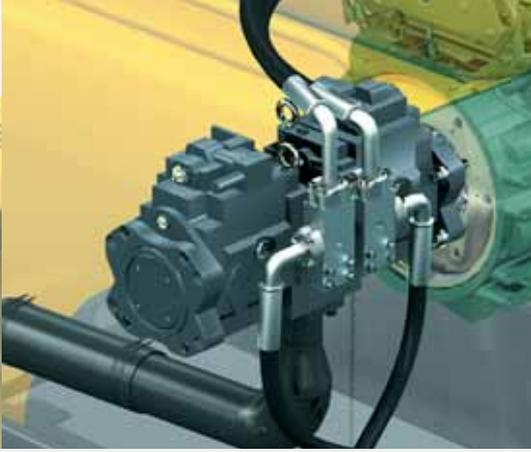
Stocked with proven, extra-duty components, the EC700B is rock-solid. The main pump and swing motor are high grade with extra capacity. The swing bearing has a larger-diameter ball. A reinforced under-cover protects the high-tensile-strength steel undercarriage and the superstructure. The boom and arm are robotically welded and engineered for extreme stress.

Volvo's fluid and air filtration systems remove even the smallest particles. Micro-particle filtration keeps the engine, hydraulics and electronic components free from contaminants, enhancing performance — and uptime.

Volvo is the world's largest manufacturer of heavy-duty diesel engines in the 9-18 L class. That experience shows in the D16 engine, a fuel-stingy power plant with the highest capacity of any engine in its class. The added engine capacity and harmonized hydraulics ensure the excavator doesn't hesitate or bog down when the digging gets tough. That means components wear longer.

Based on the L330 wheel loader engine and specifically designed for the demands of excavation, the D16 is field-proven in off- and on-highway applications. The Volvo nameplate on engine means performance, fuel economy, durability and long, reliable life.





# BUILT FOR WORK. FEELS LIKE HOME.

The cab is like an operator's second home, so it better be comfortable. Everything within easy reach. A great seat. Climate air. Well-placed controls. Expansive view. Quiet. Whatever it takes. To design the best cab, you go to the experts – the operators. So it's no coincidence the Volvo EC700B is so operator-friendly or that its cab, controls and features all say "comfort." Put a comfortable operator in command of a stout and powerful machine like the EC700B, and it's a whole new game.

## Making work easier

Digging in hot, dusty, desert conditions? Working overtime shifts on a long-run trenching job? Loading artics in a quick-run circuit? Or excavating frost-locked clay in frigid temperatures? No problem. The EC700B cab makes you forget the conditions, so you can focus on the work.

The nine-way adjustable seat will put any size operator in the comfort zone. Ergonomic controls and levers put all machine functions within easy reach. Low-effort controls lessen fatigue and make excavator functions seem like an extension of the operator's hands. The instrument electronic-control unit (I-ECU) provides diagnostic information and the status of excavator functions from a convenient monitor.

With 13 directional vents (eight on the ceiling, one in the middle and four at the bottom), the high-capacity climate control system keeps the cab comfortable, no matter the weather. Fine-particle air filtration keeps dust out of the cab and away from the operator and electronic components.

## Easy controls, great view

Smooth, harmonized hydraulics, an extra-heavy counterweight and wide, long tracks, keep the excavator stable even in tough digging conditions. No rocking or pounding. Robust cab suspension mounts dampen vibration and suppress in-cab noise.

Whether loading articulated hauler on a wide-open job site or cutting in more crowded quarters, visibility from the cab is crucial to productivity and safety. Expansive glass and a thin front-window crossbar provide clear all-around view.

Wide access steps make cab entry and exit easier. The punched-plate, anti-slip walkway along the superstructure makes routine machine checks easier. And a ladder behind the cab gives quick access to the top of the excavator.

**Visibility:** Ample glass and thin pillars delivers commanding views



**Controls:** Smart layout of the low-effort, ergonomic controls



**Convenience:** Generous storage space behind the seat



**Access:** Wide steps and anti-slip side walkway ease cab entry and exit





# KEEPING YOU PRIMED FOR WORK

Keeping a 70-ton production excavator finely tuned and primed for work is crucial to success on the job site. Forget the little things that keep a machine healthy and you could have trouble when you can least afford it. Volvo built the EC700B for easy serviceability and maintenance. After all, the faster routine checks, filter changes and greasing get done, the faster the machine gets back where it belongs — working.

## **Quick, convenient access**

If access points are hard to reach, service won't get done. The EC700's design makes getting to components safe and easy. Rugged steps on the track frame give firm footing for initial access to the machine. Wide, anti-slip gangways and sturdy hand rails run the length of the machine on both sides for safe entry and egress.

An access ladder behind the cab, and wide steps on the machine's right side, provide easy entry to the top of the superstructure. Punched-plate panels on top of the superstructure help ensure solid footing. A rugged step below the fuel port helps anchor the technician for refueling.

Filters and components are conveniently located. The EC700B's layout allows quick replacement of remote air, oil and fuel filters. There is ample space and access to major components such as the main pump or hydraulic cylinders.

## **Monitoring and diagnosis**

The operator has constant information on critical machine functions from the I-ECU (instrument electronic control unit). This system allows for easier diagnosis of problems, quick fault notification and increased operator confidence. Excavator operations are optimized by electronic control systems, so available engine and hydraulic power is balanced to match the conditions. This ensures efficient operation and enhances uptime.

Computerized service tools such as VCADS, MATRIS and Service Contronic make problem diagnosis quick and accurate, helping get the excavator back on the job faster.





# GETTING IT DONE – THE VOLVO WAY

Sunset. The waning light pierces the last dust of the day as it settles back on the job site. The rumble goes quiet. The operator climbs down from his excavator and walks to his truck. A knowing glance back reveals the Volvo EC700B, now looming in the shadows. It has been a good day. The iron will rest reluctantly until tomorrow. Then it will be time to fire it up once more and rejoin the fight.

It's tough to describe the satisfaction that comes from moving the earth. Or that extra edge an excavator operator feels, knowing he's armed with the best construction machine to crawl the landscape. Understand that and you'll know a whole lot about the EC700B. You'll see beyond the muscle, the guts and the steel. Down deep, into what really sets a machine apart.

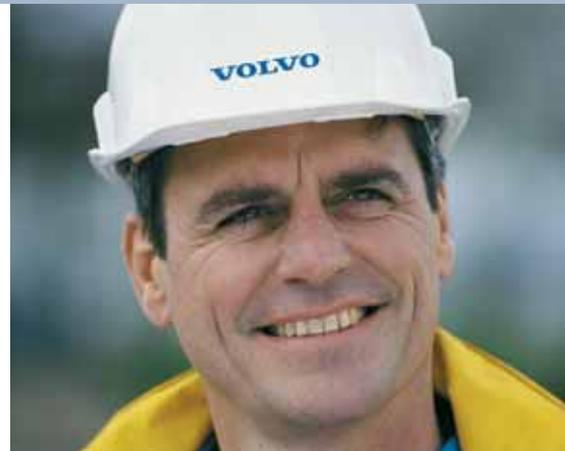
There's a name for that feeling, and it calls from the sides of every EC700B excavator: Volvo.

A contractor who runs Volvo walks the job site with extra purpose and grit. He doesn't cower at tough digging, nasty weather or tight deadlines. The work is built on his iron determination, and finished with his determined iron — from Volvo.

At the end of the day, his work crews know what really brings them home — on time, on budget, on demand. Hard-working excavators like the EC700B, wrought from nearly 175 years of heritage and the sheer will to win. It's about the machines — and more. It's about getting it done — the Volvo way.

Sunrise. Light again returns to the land. The only earth that moves is clouding under the operator's steel-toe boots as he strides to his EC700B. One boot on the track, a gloved hand on the cab. Up and in. Hands on the sticks. Back to work. It's game-on.

That's the feeling. That's why it's called a Volvo.





VOLVO

VOLVO

EC700B

VOLVO

A40D

VOLVO

VOLVO

EC700B

VOLVO

A40D

VOLVO

# SPECIFICATIONS

## Engine

The next-generation Volvo diesel engine uses Volvo Advanced Combustion Technology (V-ACT) to deliver low emissions, superior performance and fuel efficiency. The engine uses precise, high-pressure fuel injectors, a turbocharger and intercooler, and electronic engine controls to optimize machine performance.

<b>Engine</b>	VOLVO D16E
<b>Power out at</b>	30 r/s (1,800 rpm)
<b>Gross (SAE J1995)</b>	346 kW (470 ps/464 hp)
<b>Net (ISO 9249, SAE J1349)</b>	316 kW (430 ps/424 hp)
<b>Max. torque at 1,350 rpm</b>	2,250 N.m
<b>No. of cylinders</b>	6
<b>Displacement</b>	16.1 l
<b>Bore</b>	144 mm
<b>Stroke</b>	165 mm

## 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.

Contronics provides advanced monitoring of machine functions and important diagnostic information.

<b>Voltage</b>	24 V
<b>Batteries</b>	2 x 12 V
<b>Battery capacity</b>	225 Ah
<b>Alternator</b>	28 V / 80 A

## Service refill capacities

<b>Fuel tank</b>	840 l
<b>Hydraulic system, total</b>	655 l
<b>Hydraulic tank</b>	350 l
<b>Engine oil</b>	42 l
<b>Engine coolant</b>	65 l
<b>Swing reduction unit</b>	2 x 6 l
<b>Travel reduction unit</b>	2 x 12 l

## Swing system

The swing system uses 2 axial piston motors, driving 2 planetary gearboxes for maximum torque. An automatic holding brake and anti-rebound valves are standard.

<b>Max. swing speed</b>	6.7 rpm
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## 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.

<b>Max. drawbar pull</b>	453 kN
<b>Max. travel speed</b>	3.0/4.6 km/h
<b>Gradeability</b>	35°

## Undercarriage

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

<b>Track pads</b>	2 x 48
<b>Link pitch</b>	260.4 mm
<b>Shoe width, double grouser</b>	650/750/900 mm
<b>Bottom rollers</b>	2 x 8
<b>Top rollers</b>	2 x 3

## Hydraulic system

The hydraulic system, also known as the "Automatic Sensing Work Mode," is designed for high-productivity, high-digging capacity, high-maneuvering precision and excellent fuel economy. The summation system, boom, arm and 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 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: 2 x 436 l/min

## Pilot pump:

Type: Gear pump  
Maximum flow: 27.4 l/min

## Hydraulic motors:

Travel: Variable displacement axial piston motor with mechanical brake  
Swing: Fixed displacement axial piston motor with mechanical brake

## Relief valve setting:

Implement ..... 31.4/34.3 Mpa  
Travel circuit ..... 34.3 Mpa  
Swing circuit ..... 25.5 Mpa  
Pilot circuit ..... 3.9 Mpa

## Hydraulic cylinders:

Boom ..... 2  
Bore x Stroke ..... ø190 x 1,790 mm  
Arm ..... 1  
Bore x Stroke ..... ø215 x 2,070 mm  
Bucket ..... 1  
Bore x Stroke ..... ø190 x 1,450 mm  
ME Bucket ..... 1  
Bore x Stroke ..... ø200 x 1,450 mm

## 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 13 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 74 dB(A)

**External sound level according to ISO 6395 and EU Directive 2000/14/EC** ..... LwA 108 dB(A)

## Ground pressure

6.6 m boom, 2.9 m arm, 3,730 kg bucket, 11,300 kg counterweight	Shoe width	Operating weight	Ground pressure	Overall undercarriage width
Double grouser	650 mm	68,800 kg	100.1 kPa	4,095 mm
	750 mm	69,500 kg	87.6 kPa	4,100 mm
	900 mm	70,600 kg	74.2 kPa	4,250 mm

7.7 m boom, 3.55 m arm, 2,800 kg bucket, 11,300 kg counterweight	Shoe width	Operating weight	Ground pressure	Overall undercarriage width
Double grouser	650 mm	68,300 kg	99.3 kPa	4,095 mm
	750 mm	69,000 kg	87.0 kPa	4,100 mm
	900 mm	70,000 kg	73.5 kPa	4,250 mm

## Max. permitted buckets

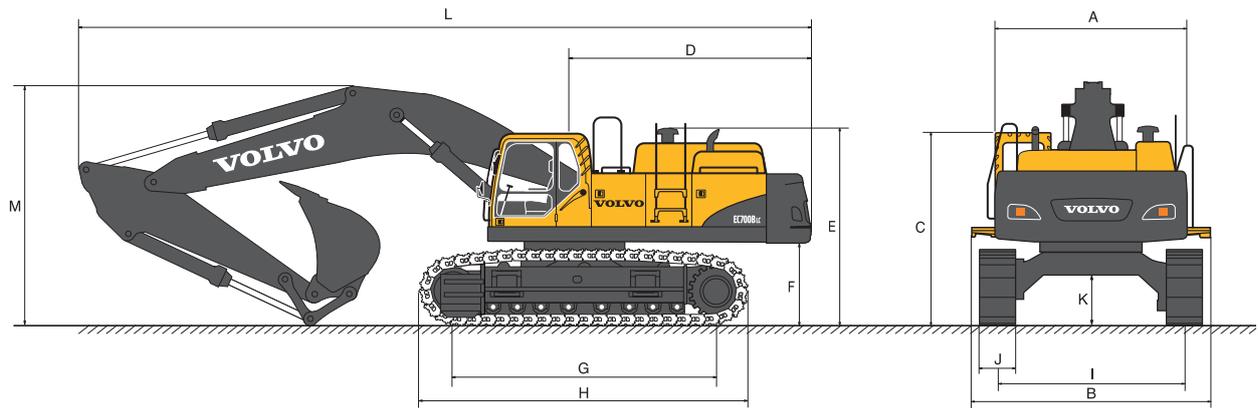
Max. permitted sizes for direct fit buckets

650 mm shoe, 11,300 kg counterweight			6.6 m Boom		7.7 m Boom	
			2.9 m Arm	2.9 m Arm	3.55 m Arm	4.2 m Arm
LU bucket	1.2 t/m <sup>3</sup>	l / kg	6,600 / 4,250	5,300 / 3,400	4,925 / 3,200	4,450 / 2,850
	1.5 t/m <sup>3</sup>	l / kg	5,675 / 3,650	4,550 / 2,950	4,225 / 2,700	3,825 / 2,450
GP bucket	1.3 t/m <sup>3</sup>	l / kg	5,675 / 5,150	4,550 / 3,850	4,225 / 3,600	3,825 / 3,250
	1.5 t/m <sup>3</sup>	l / kg	5,200 / 4,400	4,175 / 3,500	3,875 / 3,250	3,500 / 2,950
	1.8 t/m <sup>3</sup>	l / kg	4,600 / 3,900	3,700 / 3,100	3,425 / 2,900	3,100 / 2,600
HD bucket	1.8 t/m <sup>3</sup>	l / kg	4,350 / 4,350	3,500 / 3,500	3,250 / 3,250	2,925 / 2,900
	2.0 t/m <sup>3</sup>	l / kg	4,075 / 4,050	3,275 / 3,250	3,025 / 3,000	2,725 / 2,700
RL bucket	1.8 t/m <sup>3</sup>	l / kg	3,925 / 5,100	3,150 / 4,050	2,925 / 3,800	2,650 / 3,400
	2.0 t/m <sup>3</sup>	l / kg	3,700 / 4,800	2,975 / 3,850	2,750 / 3,550	2,475 / 3,200
Max. permitted bucket width		mm	2,100	2,000	2,000	2,000

900 mm shoe, 11,300 kg counterweight			7.7 m Boom		
			2.9 m Arm	3.55 m Arm	4.2 m Arm
LU bucket	1.2 t/m <sup>3</sup>	l / kg	5,875 / 3,050	5,450 / 2,950	4,900 / 2,600
	1.5 t/m <sup>3</sup>	l / kg	5,050 / 2,550	4,675 / 2,450	4,225 / 2,150
GP bucket	1.3 t/m <sup>3</sup>	l / kg	5,050 / 3,550	4,675 / 3,400	4,225 / 3,000
	1.5 t/m <sup>3</sup>	l / kg	4,625 / 3,200	4,275 / 3,050	3,875 / 2,650
	1.8 t/m <sup>3</sup>	l / kg	4,100 / 2,750	3,800 / 2,650	3,425 / 2,300
HD bucket	1.8 t/m <sup>3</sup>	l / kg	3,875 / 3,150	3,600 / 3,000	3,250 / 2,600
	2.0 t/m <sup>3</sup>	l / kg	3,625 / 2,850	3,350 / 2,750	3,025 / 2,400
RL bucket	1.8 t/m <sup>3</sup>	l / kg	3,500 / 3,800	3,250 / 3,600	2,925 / 3,200
	2.0 t/m <sup>3</sup>	l / kg	3,275 / 3,550	3,050 / 3,350	2,750 / 2,950
Max. permitted bucket width		mm	2,000	2,000	2,000

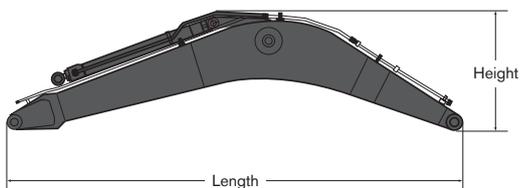
- Note: 1. Bucket size based on ISO 7451, heaped material with a 1:1 angle of repose.  
2. "Max. permitted sizes" are for reference only and are not necessarily available from the factory.  
3. LU: Light Utility  
4. GP: General Purpose, Excavation, Trenching  
5. HD: Heavy Duty, Heavy Excavation, Heavy Trenching  
6. RL: Rock Loading

## Dimensions



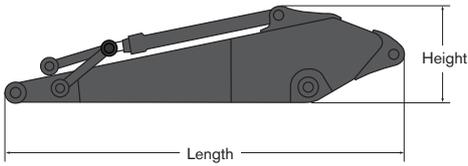
650 mm shoe, 11,300 kg counterweight		6.6 m Boom		7.7 m Boom	
		2.9 m Arm	2.9 m Arm	3.55 m Arm	4.2 m Arm
A. Overall width of superstructure	mm	3,420	3,420	3,420	3,420
B. Overall width	mm	4,286	4,286	4,286	4,286
C. Overall height of cab	mm	3,510	3,510	3,510	3,510
D. Tail swing radius	mm	4,090	4,090	4,090	4,090
E. Overall height of pre-cleaner	mm	3,590	3,590	3,590	3,590
F. Counterweight clearance *	mm	1,507	1,507	1,507	1,507
G. Tumbler length	mm	4,750	4,750	4,750	4,750
H. Track length	mm	5,990	5,990	5,990	5,990
I. Track gauge (extended)	mm	3,350	3,350	3,350	3,350
Track gauge (retracted)	mm	2,750	2,750	2,750	2,750
J. Shoe width	mm	650	650	650	650
K. Min. ground clearance *	mm	858	858	858	858
L. Overall length	mm	12,200	13,320	13,220	13,170
M. Overall height of boom	mm	4,855	4,660	4,600	4,950

\*With shoe grouser



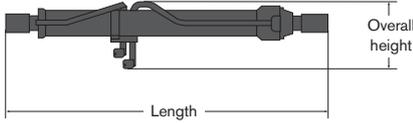
Boom	6.6 m	7.7 m
Length	6,890 mm	8,020 mm
Height	2,530 mm	1,970 mm
Width	1,110 mm	1,110 mm
Weight	6,550 kg	6,900 kg

\* Includes cylinder, pin and piping

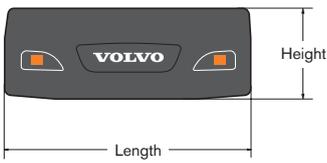


Arm	2.9 m	3.55 m	4.2 m
Length	4,260 mm	4,940 mm	5,590 mm
Height	1,530 mm	1,390 mm	1,390 mm
Width	740 mm	740 mm	740 mm
Weight	3,510 kg	3,670 kg	3,900 kg

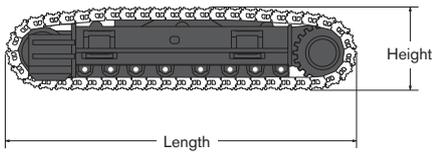
\* Includes cylinder, piping and linkage



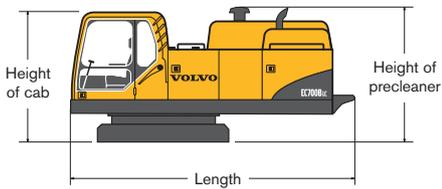
Length	Overall height	Width	Weight
2,765 mm	560 mm	370 mm	540 kg x 2 set = 1,080 kg



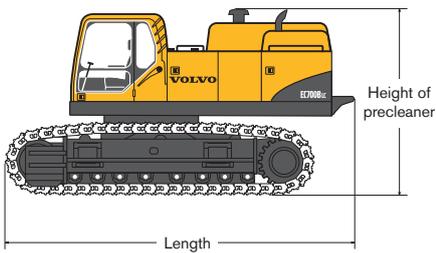
Length	Height	Width	Weight
3,420 mm	1,280 mm	800 mm	11,400 kg



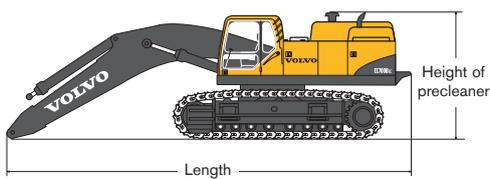
Shoe width	Length	Height	Overall width	Weight / unit
650 mm	5,990 mm	1,375 mm	700 mm	10,400 kg
750 mm	5,990 mm	1,375 mm	750 mm	10,750 kg
900 mm	5,990 mm	1,375 mm	900 mm	11,250 kg



Length	Height of cab	Height of precleaner	Width	Weight
5,500 mm	2,655 mm	2,735 mm	3,430 mm	21,700 kg

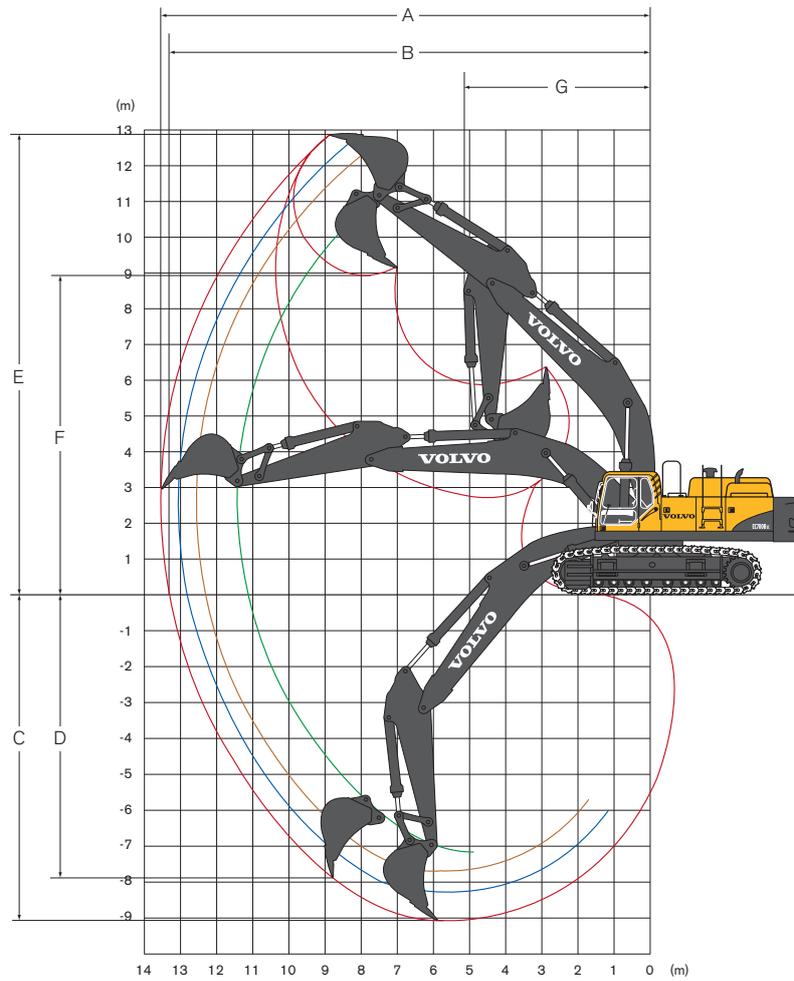


Shoe width	Length	Height of precleaner	Overall width (retracted)	Weight
650 mm	6,730 mm	3,590 mm	3,495 mm	44,000 kg
750 mm	6,730 mm	3,590 mm	3,595 mm	44,700 kg
900 mm	6,730 mm	3,590 mm	3,745 mm	45,700 kg



Boom	Shoe width	Length	Height of precleaner	Overall width (retracted)	Weight
6.6 m	650 mm	10,140 mm	3,590 mm	3,495 mm	50,550 kg
	750 mm	10,140 mm	3,590 mm	3,595 mm	51,250 kg
	900 mm	10,140 mm	3,590 mm	3,745 mm	52,250 kg
7.7 m	650 mm	11,280 mm	3,590 mm	3,495 mm	50,900 kg
	750 mm	11,280 mm	3,590 mm	3,595 mm	51,600 kg
	900 mm	11,280 mm	3,590 mm	3,745 mm	52,600 kg

## Working ranges & digging forces



Machine with direct fit bucket		6.6 m Boom		7.7 m Boom	
		2.9 m Arm	2.9 m Arm	3.55 m Arm	4.2 m Arm
A. Max. digging reach	mm	11,500	12,600	13,170	13,780
B. Max. digging reach on ground	mm	11,200	12,335	12,910	13,540
C. Max. digging depth	mm	7,250	7,755	8,400	9,055
D. Max. vertical wall digging depth	mm	5,065	6,780	7,250	7,855
E. Max. cutting height	mm	10,980	12,490	12,620	12,940
F. Max. dumping height	mm	6,960	8,410	8,610	8,930
G. Min. front swing radius	mm	5,160	5,480	5,410	5,160

Digging forces with direct fit bucket			6.6 m Boom		7.7 m Boom	
			2.9 m Arm	2.9 m Arm	3.55 m Arm	4.2 m Arm
Bucket radius		mm	2,215	2,150	2,150	2,150
Breakout force – bucket (Normal / Power boost)	ISO	kN	342/374	326/356	326/356	326/356
Tearout force – arm (Normal / Power boost)	ISO	kN	298/326	303/332	265/290	236/258
Rotation angle, bucket		deg	172°	173°	173°	173°

## 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 fit from the following values.

 Across undercarriage  Along undercarriage	Lifting hook related to ground level	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		Max. reach					
															Max. mm		
Boom 6.6 m + Arm 2.9 m + Shoe 650 mm + Counterweight 11,300 kg	7.5 m kg														*10,530	*10,530	8,520
	6.0 m kg														*10,490	*10,490	9,230
	4.5 m kg														*10,760	*10,760	9,660
	3.0 m kg	*30,370	*30,370												*11,340	*11,340	9,850
	1.5 m kg	*19,100	*19,100												*12,340	11,560	9,800
	0 m kg	*33,060	*33,060												*13,940	11,840	9,510
	-1.5 m kg	*34,700	*34,700												*16,630	12,740	8,970
-3.0 m kg	*31,800	*31,800												*16,990	14,650	8,110	
-4.5 m kg	*26,720	*26,720												*17,500	*17,500	6,830	
Boom 6.6 m + Arm 2.9 m + Shoe 750 mm + Counterweight 11,300 kg	7.5 m kg														*10,530	*10,530	8,520
	6.0 m kg														*10,490	*10,490	9,230
	4.5 m kg														*10,760	*10,760	9,660
	3.0 m kg	*30,370	*30,370												*11,340	*11,340	9,850
	1.5 m kg	*19,100	*19,100												*12,340	11,680	9,800
	0 m kg	*33,060	*33,060												*13,940	11,970	9,510
	-1.5 m kg	*34,700	*34,700												*16,630	12,870	8,970
-3.0 m kg	*31,800	*31,800												*16,990	14,800	8,110	
-4.5 m kg	*26,720	*26,720												*17,500	*17,500	6,830	
Boom 6.6 m + Arm 2.9 m + Shoe 900 mm + Counterweight 11,300 kg	7.5 m kg														*10,530	*10,530	8,520
	6.0 m kg														*10,490	*10,490	9,230
	4.5 m kg														*10,760	*10,760	9,660
	3.0 m kg	*30,370	*30,370												*11,340	*11,340	9,850
	1.5 m kg	*19,100	*19,100												*12,340	11,850	9,800
	0 m kg	*33,060	*33,060												*13,940	12,140	9,510
	-1.5 m kg	*34,700	*34,700												*16,630	13,060	8,970
-3.0 m kg	*31,800	*31,800												*16,990	15,020	8,110	
-4.5 m kg	*26,720	*26,720												*17,500	*17,500	6,830	
Boom 7.7 m + Arm 2.9 m + Shoe 650 mm + Counterweight 11,300 kg	9.0 m kg														*11,750	*11,750	8,800
	7.5 m kg														*11,460	*11,460	9,730
	6.0 m kg														*11,490	10,950	10,360
	4.5 m kg	*19,690	*19,690												*11,780	10,080	10,740
	3.0 m kg														*12,370	9,610	10,910
	1.5 m kg														*13,280	9,470	10,860
	0 m kg	*15,300	*15,300												*13,680	9,650	10,610
-1.5 m kg	*15,210	*15,210												*13,740	10,230	10,120	
-3.0 m kg	*27,470	*27,470												*13,720	11,410	9,370	
-4.5 m kg	*23,490	*23,490												*13,670	*13,670	8,290	
-6.0 m kg	*17,300	*17,300												*12,740	*12,740	6,710	
Boom 7.7 m + Arm 2.9 m + Shoe 750 mm + Counterweight 11,300 kg	9.0 m kg														*11,750	*11,750	8,800
	7.5 m kg														*11,460	*11,460	9,730
	6.0 m kg														*11,490	11,060	10,360
	4.5 m kg	*19,690	*19,690												*11,780	10,190	10,740
	3.0 m kg														*12,370	9,720	10,910
	1.5 m kg														*13,280	9,570	10,860
	0 m kg	*15,300	*15,300												*13,680	9,760	10,610
-1.5 m kg	*15,210	*15,210												*13,740	10,350	10,120	
-3.0 m kg	*27,470	*27,470												*13,720	11,530	9,370	
-4.5 m kg	*23,490	*23,490												*13,670	*13,670	8,290	
-6.0 m kg	*17,300	*17,300												*12,740	*12,740	6,710	
Boom 7.7 m + Arm 2.9 m + Shoe 900 mm + Counterweight 11,300 kg	9.0 m kg														*11,750	*11,750	8,800
	7.5 m kg														*11,460	*11,460	9,730
	6.0 m kg														*11,490	11,220	10,360
	4.5 m kg	*19,690	*19,690												*11,780	10,340	10,740
	3.0 m kg														*12,370	9,870	10,910
	1.5 m kg														*13,280	9,720	10,860
	0 m kg	*15,300	*15,300												*13,680	9,910	10,610
-1.5 m kg	*15,210	*15,210												*13,740	10,510	10,120	
-3.0 m kg	*27,470	*27,470												*13,720	11,710	9,370	
-4.5 m kg	*23,490	*23,490												*13,670	*13,670	8,290	
-6.0 m kg	*17,300	*17,300												*12,740	*12,740	6,710	

- 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.

## 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 fit from the following values.

 Across undercarriage  Along undercarriage	Lifting hook related to ground level	4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		Max. reach				
															Max. mm	
Boom 7.7 m + Arm 3.55 m + Shoe 650 mm + Counterweight 11,300 kg	9.0 m kg															9,420
	7.5 m kg															10,290
	6.0 m kg															10,890
	4.5 m kg	*20,980	*20,980	*19,630	*19,630	*16,470	*16,470	*14,490	13,520	*13,120	10,590		*9,780	9,440		11,260
	3.0 m kg	*14,850	*14,850	*22,290	*22,290	*17,890	17,120	*15,300	12,990	*13,540	10,260		*10,250	9,020		11,410
	1.5 m kg	*13,780	*13,780	*24,430	22,480	*19,150	16,310	*16,000	12,520	*13,870	9,960		*10,990	8,870		11,370
	0 m kg	*13,700	*13,700	*25,430	21,600	*19,920	15,710	*16,430	12,140	*13,930	9,740		*12,100	9,000		11,120
	-1.5 m kg	*20,080	*20,080	*25,210	21,200	*19,980	15,360	*16,370	11,910	*13,460	9,650		*13,150	9,470		10,660
	-3.0 m kg	*30,060	*30,060	*23,910	21,160	*19,190	15,260	*15,570	11,860				*13,330	10,410		9,960
	-4.5 m kg	*26,380	*26,380	*21,430	21,410	*17,270	15,410						*13,520	12,170		8,940
-6.0 m kg	*20,940	*20,940	*17,260	*17,260	*13,320	*13,320						*13,310	*13,310		7,500	
Boom 7.7 m + Arm 3.55 m + Shoe 750 mm + Counterweight 11,300 kg	9.0 m kg															9,420
	7.5 m kg															10,290
	6.0 m kg															10,890
	4.5 m kg	*20,980	*20,980	*19,630	*19,630	*16,470	*16,470	*14,490	13,650	*13,120	10,700		*9,780	9,540		11,260
	3.0 m kg	*14,850	*14,850	*22,290	*22,290	*17,890	17,290	*15,300	13,120	*13,540	10,370		*10,250	9,110		11,410
	1.5 m kg	*13,780	*13,780	*24,430	22,710	*19,150	16,480	*16,000	12,650	*13,870	10,070		*10,990	8,970		11,370
	0 m kg	*13,700	*13,700	*25,430	21,820	*19,920	15,880	*16,430	12,280	*13,930	9,850		*12,110	9,100		11,120
	-1.5 m kg	*20,080	*20,080	*25,210	21,430	*19,980	15,530	*16,370	12,040	*13,460	9,760		*13,150	9,570		10,660
	-3.0 m kg	*30,060	*30,060	*23,910	21,390	*19,190	15,430	*15,570	11,990				*13,330	10,520		9,960
	-4.5 m kg	*26,380	*26,380	*21,430	*21,430	*17,270	15,580						*13,520	12,300		8,940
-6.0 m kg	*20,940	*20,940	*17,260	*17,260	*13,320	*13,320						*13,310	*13,310		7,500	
Boom 7.7 m + Arm 3.55 m + Shoe 900 mm + Counterweight 11,300 kg	9.0 m kg															9,420
	7.5 m kg															10,290
	6.0 m kg															10,890
	4.5 m kg	*20,980	*20,980	*19,630	*19,630	*16,470	*16,470	*14,490	13,840	*13,120	10,860		*9,780	9,690		11,260
	3.0 m kg	*14,850	*14,850	*22,290	*22,290	*17,890	17,520	*15,300	13,310	*13,540	10,530		*10,250	9,260		11,410
	1.5 m kg	*13,780	*13,780	*24,430	23,030	*19,150	16,720	*16,000	12,840	*13,870	10,230		*10,990	9,110		11,370
	0 m kg	*13,700	*13,700	*25,430	22,150	*19,920	16,110	*16,430	12,460	*13,930	10,010		*12,110	9,250		11,120
	-1.5 m kg	*20,080	*20,080	*25,210	21,750	*19,980	15,760	*16,370	12,230	*13,460	9,920		*13,150	9,730		10,660
	-3.0 m kg	*30,060	*30,060	*23,910	21,710	*19,190	15,660	*15,570	12,180				*13,330	10,690		9,960
	-4.5 m kg	*26,380	*26,380	*21,430	*21,430	*17,270	15,820						*13,520	12,490		8,940
-6.0 m kg	*20,940	*20,940	*17,260	*17,260	*13,320	*13,320						*13,310	*13,310		7,500	
Boom 7.7 m + Arm 4.2 m + Shoe 650 mm + Counterweight 11,300 kg	10.5 m kg															9,050
	9.0 m kg															10,180
	7.5 m kg															10,990
	6.0 m kg															11,550
	4.5 m kg															11,900
	3.0 m kg	*16,640	*16,640	*20,750	*20,750	*16,830	*16,830	*14,470	12,980	*12,870	10,180		*8,380	8,150		12,050
	1.5 m kg	*14,340	*14,340	*23,210	22,690	*18,260	16,330	*15,300	12,450	*13,330	9,820		*8,890	8,000		12,010
	0 m kg	*13,880	*13,880	*24,700	21,560	*19,280	15,610	*15,910	11,990	*13,580	9,550		*9,680	8,090		11,770
	-1.5 m kg	*21,040	*21,040	*25,030	20,950	*19,670	15,140	*16,100	11,680	*13,470	9,380		*10,870	8,440		11,340
	-3.0 m kg	*28,880	*28,880	*24,250	20,750	*19,260	14,930	*15,680	11,540	*12,660	9,360		*12,240	9,170		10,680
-4.5 m kg	*28,320	*28,320	*22,340	20,870	*17,890	14,970	*14,300	11,620				*12,490	10,490		9,740	
-6.0 m kg	*23,610	*23,610	*18,990	*18,990	*15,050	*15,050						*12,560	*12,560		8,440	
Boom 7.7 m + Arm 4.2 m + Shoe 750 mm + Counterweight 11,300 kg	10.5 m kg															9,050
	9.0 m kg															10,180
	7.5 m kg															10,990
	6.0 m kg															11,550
	4.5 m kg															11,900
	3.0 m kg	*16,640	*16,640	*20,750	*20,750	*16,830	*16,830	*14,470	13,120	*12,870	10,290		*8,380	8,240		12,050
	1.5 m kg	*14,340	*14,340	*23,210	22,920	*18,260	16,500	*15,300	12,580	*13,330	9,930		*8,890	8,100		12,010
	0 m kg	*13,880	*13,880	*24,700	21,780	*19,280	15,770	*15,910	12,130	*13,580	9,660		*9,680	8,190		11,770
	-1.5 m kg	*21,040	*21,040	*25,030	21,180	*19,670	15,310	*16,100	11,810	*13,470	9,490		*10,870	8,540		11,340
	-3.0 m kg	*28,880	*28,880	*24,250	20,980	*19,260	15,100	*15,680	11,670	*12,660	9,470		*12,240	9,280		10,680
-4.5 m kg	*28,320	*28,320	*22,340	21,100	*17,890	15,140	*14,300	11,750				*12,490	10,610		9,740	
-6.0 m kg	*23,610	*23,610	*18,990	*18,990	*15,050	*15,050						*12,560	*12,560		8,440	
Boom 7.7 m + Arm 4.2 m + Shoe 900 mm + Counterweight 11,300 kg	10.5 m kg															9,050
	9.0 m kg															10,180
	7.5 m kg															10,990
	6.0 m kg															11,550
	4.5 m kg															11,900
	3.0 m kg	*16,640	*16,640	*20,750	*20,750	*16,830	*16,830	*14,470	13,300	*12,870	10,440		*8,380	8,370		12,050
	1.5 m kg	*14,340	*14,340	*23,210	*23,210	*18,260	16,740	*15,300	12,770	*13,330	10,080		*8,890	8,230		12,010
	0 m kg	*13,880	*13,880	*24,700	22,110	*19,280	16,010	*15,910	12,320	*13,580	9,820		*9,680	8,320		11,770
	-1.5 m kg	*21,040	*21,040	*25,030	21,500	*19,670	15,540	*16,100	12,000	*13,470	9,650		*10,870	8,690		11,340
	-3.0 m kg	*28,880	*28,880	*24,250	21,300	*19,260	15,340	*15,680	11,860	*12,660	9,630		*12,240	9,430		10,680
-4.5 m kg	*28,320	*28,320	*22,340	21,420	*17,890	15,380	*14,300	11,940				*12,490	10,780		9,740	
-6.0 m kg	*23,610	*23,610	*18,990	*18,990	*15,050	*15,050						*12,560	*12,560		8,440	

- 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.

## STANDARD EQUIPMENT

### Engine

Turbocharged, 4 stroke diesel engine with water cooling, direct injection and charged air cooler  
3-stage air filter with indicator and precleaner  
Air intake heater  
Electric engine shut-off  
Fuel filter and water separator  
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  
One-touch power boost  
Safety stop/start function  
Adjustable monitor  
Master switch  
Engine restart prevention circuit  
High-capacity halogen lights:  
- Frame-mounted 3  
- Boom-mounted 4  
Batteries, 2 x 12 V / 225 Ah  
Start motor, 28 V / 6.6 kW

### Hydraulic system

Automatic hydraulic system  
- Summation system  
- Boom priority  
- Arm priority  
- Swing priority

Boom and arm regeneration valves  
Swing anti-rebound valves  
Boom and arm holding valves  
Pump flow control for hammer & shear  
Multi-stage filtering system  
Cylinder cushioning  
Cylinder contamination seals  
Auxiliary hydraulic valve  
Automatic two-speed travel motors  
Hydraulic oil, ISO VG 46

### Superstructure

Access way with handrail  
Full height counterweight:  
11,300 kg  
Tool storage area  
Punched metal anti-slip plates  
Undercover (heavy-duty 4.5 mm)  
Side walk-way

### Cab and interior

Fabric seat with heater and air suspension  
Pilot-operated wrist control joysticks with 3 switches each  
Heater & air-conditioner, automatic  
Hydraulic dampening cab mounts  
Adjustable operator seat and joystick control console  
Flexible antenna  
Hydraulic safety lock lever  
Cab, all-weather sound suppressed, includes:  
- Ashtray  
- Cup holder  
- Lighter

- Door locks  
- Tinted glass  
- Floor mat  
- Horn  
- Large storage area  
- Pull-up type front window  
- Removable lower windshield  
- Seat belt  
- Safety glass  
- Windshield wiper with intermittent feature  
- Stereo cassette radio  
Anti-vandalism kit assembly preparation  
Master ignition key

### Undercarriage

Hydraulic track adjusters  
Greased and sealed track chain  
Track guards  
Undercover (heavy-duty 10 mm)  
Mechanically retractable track gauge

### Track shoes

Track shoes 650 mm with double grousers

### Digging equipment

Boom: ME 6.6 m  
Arm: 2.9 m  
Centralized lubrication

### Service

Special tool for retractable frame

## OPTIONAL EQUIPMENT

### Engine

Block heater: 120 V, 240 V  
Dual stage precleaner  
Diesel coolant heater  
Fuel filler pump: 100 l/min, with automatic shut-off  
Water separator with heater  
Low noise kit

### Electric

Extra lamps:  
- Cab-mounted 1  
- Counterweight-mounted 1  
Travel alarm  
Swing alarm  
Anti-theft system  
Rotating warning beacon

### Hydraulic system

Hose rupture valve: boom, arm  
Boom float function  
Overload warning device  
Hammer & shear:  
- one and two pump flow

- Additional return filter  
- 1 switch control  
- 2 switch control  
- Pedal switch control  
Hydraulic oil, ISO VG 32  
Hydraulic oil, ISO VG 68  
Hydraulic oil, biodegradable 32  
Hydraulic oil, biodegradable 46

### Cab and interior

Fabric seat  
Fabric seat with heater  
Control joystick with semi-long levers  
Control joystick with 5 switches each  
Air-conditioner, manual  
Falling object guard (FOG)  
- Frame-mounted (356 kg)  
- Cab-mounted (153 kg)  
Cab-mounted falling object protective structures (FOPS: 80 kg)  
Sunlight protection, roof (steel)  
Foot support bar  
Sun shield, front, roof, rear  
Rain shield, front

Safety screen for front window  
Lower wiper  
Anti-vandalism kit

### Undercarriage

Full track guards (190 kg / unit)

### Track shoes

750 mm, 900 mm track shoes with double grousers

### Digging equipment

Boom: 7.7 m  
Arm: 3.55 m/4.2 m

### Service

Electric grease gun  
Hand lamp  
Spare parts  
Tool kit, full scale



Volvo Construction Equipment is different. It's designed, built and supported in a different way. That difference comes from an engineering heritage of over 170 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 – **More care. Built in.**



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# **VOLVO**

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