

V O L V O

EC950E

Volvo Construction Equipment. Building Tomorrow



A large wind turbine stands in a field of dry grass with a herd of cattle grazing in the foreground. The sky is a warm, hazy orange from the setting or rising sun. The turbine's blades are partially visible, with one blade pointing towards the top left of the frame.

WELCOME TO OUR WORLD

Welcome to a world of industry leading machinery. A world where imagination, hard work and technological innovation will lead the way towards developing a future which is cleaner, smarter, and more connected. A world supported by the enduring values of the Volvo Group. A world of stability, sustainability and innovation. A world which we put our customers at the heart of.

Welcome to the world of Volvo Construction Equipment – we think you're going to like it here.

Working harder, working smarter

For over 190 years Volvo has been a pioneer in the design and manufacture of machines which set the standard for efficiency, performance and uptime. Across our range of excavators, wheel loaders and haulers, our reputation for engineering excellence is unrivalled, which means whatever your operation or application, we can provide a total fleet solution to help you succeed.

Building on our proud history, the Volvo Concept Lab continues to create cutting-edge ideas and innovative concepts, to ensure we offer customers machines which work harder and smarter long into the future.



Solutions for you

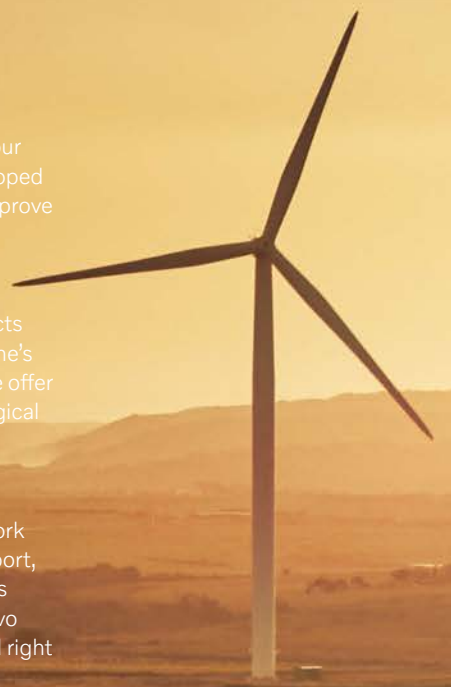
Our industry leading machines are just the start of your relationship with Volvo. As your partner, we have developed an extensive range of additional solutions to help you improve uptime, boost productivity and reduce costs.

Designed for your business

Structured across nine blocks, our portfolio of products and services are designed to complement your machine's performance and boost your profitability. Simply put, we offer some of the best guarantees, warranties and technological solutions in the industry today.

There when you need us

Whether you're buying new or used, our global network of dealers and technicians offer around-the-clock support, including machine monitoring and world-class parts availability. It's the basis of everything offered by Volvo Services, so you can be confident we've got you covered right from the start.



BUILDING TOMORROW

Big, powerful and productive

Do the bigger jobs better, stronger and faster with the EC950E. The 90 tonne crawler excavator offers the perfect combination of power and stability to handle a higher capacity in the toughest applications.

Solid stability

Operators can work with comfort and confidence in the most challenging environments with outstanding stability in the EC950E. The well-balanced and solid machine features a wide track gauge, long track length, a retractable undercarriage, and an optimised counterweight.



Powered by Volvo

Rely on a superior performance from the EC950E. Featuring a powerful 450kW Volvo D16 engine, the machine utilizes advanced technology built on decades of experience to ensure a highly productive operation.



Maximize operator productivity

For operator convenience and ease of use, all machine interfaces – including the joysticks, keypad and LCD monitor – are ergonomically positioned and designed for optimum control and efficiency. Maximizing operator productivity, the cab features a comfortable, spacious, and low-noise environment.



Bigger machine, bigger results

Gain more profitability and productivity in the EC950E, Volvo's largest crawler excavator. The 90 tonne excavator delivers a high bucket capacity for more tons per hour, achieving a fast and efficient on-site production.

Peak performance

Job done. With the big and powerful EC950E, no task is too tough. Increase profitability with superior digging force, quick cycle times and outstanding fuel efficiency for a maximum return on investment.

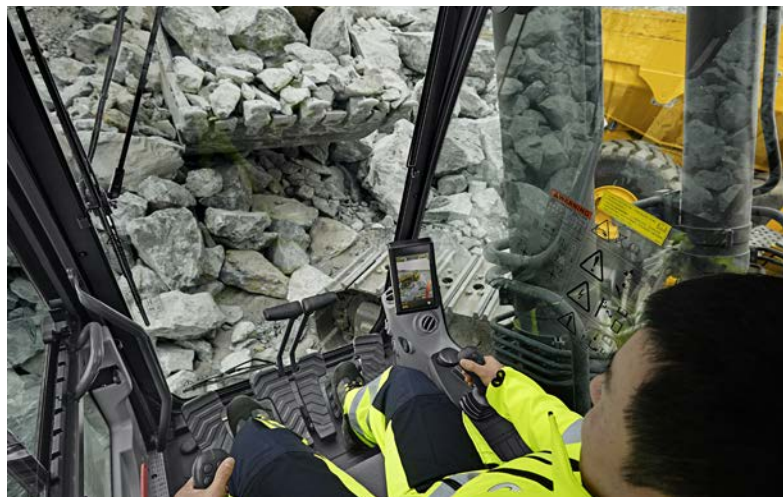
Do more in less time

Quick cycle times are achieved with the enhanced hydraulics system which increases pump power for a fast and smooth operation. Cut cycle times to a minimum with the newly developed fully electro-hydraulic system in combination with the high power and massive torque from the Volvo D16 engine.



Complete control

For a more productive and efficient operation, the new electro-hydraulic system puts superior control in the operator's hands. Utilizing intelligent technology, the system controls on-demand flow and reduces internal losses in the hydraulic circuit.



Outstanding fuel efficiency

Achieve outstanding fuel efficiency with Volvo's unique ECO Mode and electro-hydraulic system. ECO Mode optimizes the hydraulic system to reduce loss of flow and pressure. For a more efficient operation, the integrated work mode allows operators to choose the best work mode for the task at hand – select from I (Idle), F (Fine), G (General), H (Heavy) and P (Power max).



Superior digging force

In even the toughest applications, the EC950E is up to the challenge. Experience superior digging force, particularly when working with hard and heavy materials thanks to constant high hydraulic pressure delivering power to the machine when you need it.

Always-on

Rely on maximum uptime with the big and durable EC950E – always available and ready to work. The machine's heavy-duty design, reliable and wear-resistant components, and easy service access ensure you will get the job done quickly and without delay.

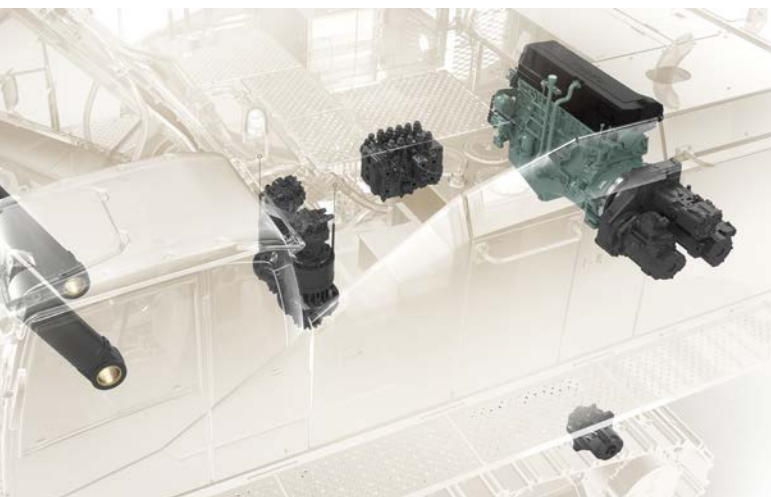
Durable by design

Achieve non-stop production with the durable and reliable EC950E. Built with protected components, including a heavy-duty boom and arm, strong frame structure, the machine can be relied on for longevity and sustained uptime in demanding applications. A built-in, heavy-duty plate is featured for additional protection to the underside of the machine.



Robust protection

For added safety and durability, optional FOG (Falling Object Guard) and FOPS (Falling Object Protective Structure) certified cabs provide peace-of-mind for working in tough applications. The EC950E can also be fitted with a full length track guard for added protection.



Proven reliability

Count on a solid, reliable EC950E with Volvo's high-quality components, designed to work in perfect harmony with the machine. Volvo's commitment to rigorous testing in its development process ensures the production of well-engineered components, purpose-built for the job, and proven to be reliable in the toughest applications.



Easy service access

Maximize uptime with quick and safer servicing. Essential maintenance points are easily accessed via the wide-opening and conveniently located compartment doors using central and surrounding walkways.

Keeping costs down

We're committed to providing a complete solution to guarantee the highest performance from your Volvo machine, including state-of-the-art support through our customer solutions. Take advantage of our unique, local dealer support network to ensure your machine achieves maximum uptime, and generates maximum profit and growth for your business.

Machine monitoring made easy

Maximize uptime through important service reminders with CareTrack. The GPS monitoring program works with the machine's diagnostic system to allow you to remotely track usage, productivity, fuel consumption and more. The system also monitors geographic machine location and can even prevent unauthorized use.

Machine diagnosis

Analyze machine usage, reduce maintenance costs and increase service life with Volvo's diagnostic analysis software. MATRIS analyses the machine's operational data and functions, which can be adjusted accordingly.



Repairs and Maintenance Agreements

The range of Repairs and 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 Agreements you are in control of your service costs.

Genuine Volvo Parts

Every part is vital for optimized uptime and performance of your machine. Genuine Volvo Parts are extensively tested and approved to ensure the highest quality. Talk to your local Volvo dealer to discover parts availability and quick and easy delivery via our global parts distribution network.

Up to the challenge

BIGGER MACHINE, BIGGER RESULTS



Gain more tons per hour in Volvo's largest crawler excavator, delivering a fast and efficient on-site production.

Robust protection

Optional FOG and FOPS certified cabs provide peace-of-mind for working in tough applications.

Do more in less time

Cut cycle times to a minimum with the newly developed fully electro-hydraulic system.

Complete control

The electro-hydraulic system controls on-demand flow and reduces internal losses in the hydraulic circuit.

SUPERIOR DIGGING FORCE



The EC950E features superior digging force, particularly when working with hard and heavy materials.

Durable Volvo buckets

Maximize productivity with Volvo's durable, high quality buckets, perfectly matched to your machine.



MACHINE MONITORING MADE EASY



Maximize uptime with the GPS monitoring program works with the machine's diagnostic system to allow you to remotely track usage, productivity, fuel consumption and more.

EASY SERVICE ACCESS



Maintenance points are easily accessed via the wide-opening compartment doors using central and surrounding walkways.

Powered by Volvo

Rely on a superior performance from the EC950E, featuring a powerful 450kW Volvo D16 engine.

Outstanding fuel efficiency

Achieve outstanding fuel efficiency with Volvo's unique ECO Mode and electro-hydraulic system.

Durable by design

Built with protected components, the EC950E can be relied on for longevity and sustained uptime.

Proven reliability

Count on Volvo's high-quality components, designed to work in perfect harmony with your machine.



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



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



Three-Point Seat Belt with reminder



Access way with Handrail



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)



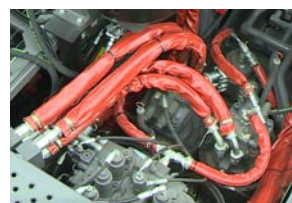
Automatic Fire Detection & Suppression System (AFDSS)



Audio Visual Alarm



Turbocharger guard



Fire resistant sleeves on hoses



Exhaust tube coating

- Hose rupture valve*

Volvo EC950E in detail

Engine

The Volvo diesel engine delivers lower emissions, superior performance, 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	1 800
Gross, SAE J1995	kW / hp	450 / 612
Net, ISO 9249/DIN 6271	kW / hp	446 / 606
Max torque	Nm	2 650
at engine speed	r/min	1 350
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 electro - hydraulic system, also known as the "Automatic Sensing Work Mode" and MCV use 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 fast 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 - 3 x Variable displacement axial piston pumps

Maximum flow	l/min	2 x 515; 1 x 147
--------------	-------	------------------

Pilot Pump - 1 x Gear Pump

Maximum flow	l/min	1 x 42
--------------	-------	--------

Relief valve setting pressure

Implement	Mpa	34.3
Travel circuit	Mpa	34.3
Slew circuit	Mpa	28.4
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	215 x 1930
Arm		1
Bore x Stroke	Ø x mm	240 x 2180
Bucket		1
Bore x Stroke	Ø x mm	200 x 1500
Bucket (ME)		1
Bore x stroke	Ø x mm	230 x 1500

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	6.9
Max. Swing torque	kN-m	343

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	565
Max. travel speed (low / high)	km/h	2.8 / 4.4
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 9
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 and EU Noise Directive (2000/14/EC)

LwA	dB(A)	111
-----	-------	-----

Service Refill

Fuel tank	l	1 265
Hydraulic System, total	l	900
Hydraulic tank	l	460
Engine oil	l	55
Engine coolant	l	72
Slew reduction unit	l	2 x 6.5
Travel reduction unit	l	2 x 25
PTO gearbox	l	9.2

Specifications

Machine Weights and Ground Pressure

Description	Unit	EC950EL		
Boom	m	7.25		
Arm	m	2.95		
Bucket	Cu.m	6.00 GP		
	kg	5 622		
Counter weight	kg	12 700		
Shoe width	mm	650		
Double Grouser	Operating weight	Ground pressure	Under carriage width	
	kg	kPa	mm	
	90 872	123.2	4 298	

Bucket Selection Guide

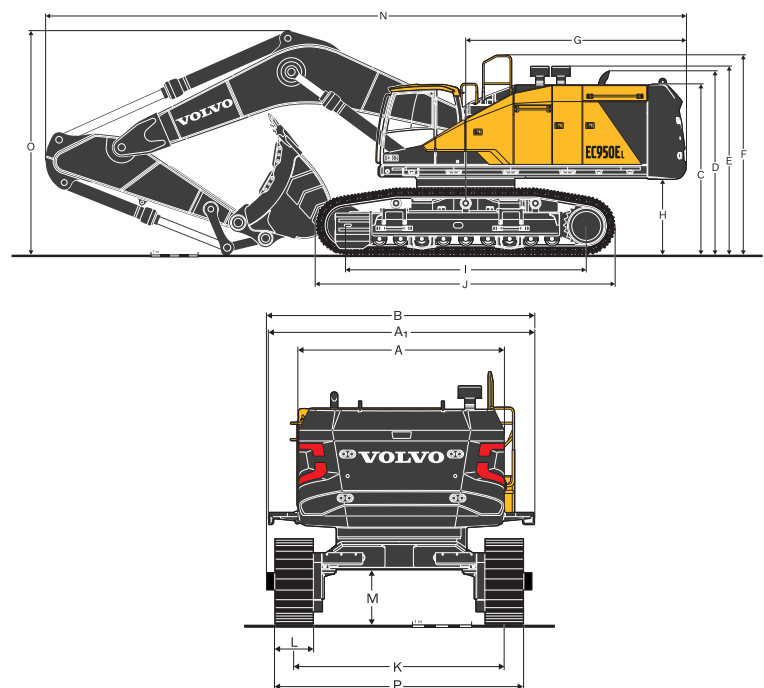
Direct fit Buckets		EC950EL		
Boom	m	7.25		
Arm	m	2.95		
Bucket Type	Material Density	Bucket Capacity	Cutting width	Weight
	t/m ³	Cu.m	mm	kg
General Purpose	1.6	-	-	-
	1.8	6.00	2 350	5 622
Heavy Duty	1.6	6.00	2 350	6 660
	1.8	5.60	2 350	6366

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

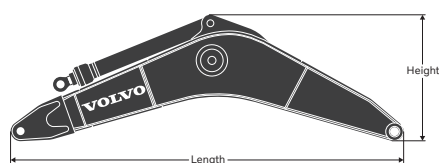
Dimensions

Description	Unit	EC950EL
Boom	m	7.25
Arm	m	2.95
A. Overall width of superstructure	mm	3 485
A1. Overall width of superstructure (inc. walk way)	mm	4 505
B. Overall width (step for walkway)	mm	4 515
C. Overall height of cab	mm	3 655
D. Overall height of tail pipe	mm	3 930
E. Overall height of pre-cleaner	mm	4 025
Overall height of oil bath	mm	4 180
F. Overall height of guardrail	mm	4 265
G. Tail swing radius	mm	4 700
H. Counterweight clearance *	mm	1 620
I. Tumbler length	mm	5 120
J. Track length	mm	6 380
K. Track gauge (extended)	mm	3 550
Track gauge (retracted)	mm	2 980
L. Shoe width	mm	650
M. Min. ground clearance *	mm	915
N. Overall length	mm	13 615
O. Overall height of boom	mm	4 950
P. Width of track (retracted)	mm	3 630
Width of track (extended)	mm	4 200

*with shoe grouser



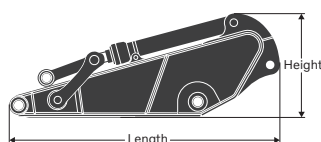
Boom



Boom	Unit	7.25m
Length	mm	7 620
Height	mm	2 580
Width	mm	1 100
Weight	kg	9 580

Includes arm cylinder, piping and pin*

Arm

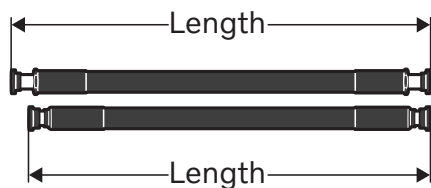


Arm	Unit	2.95m
Length	mm	4 470
Height	mm	1 675
Width	mm	835
Weight	kg	5 470

Includes bucket cylinder, linkage and pin *

Specifications

Boom cylinder hose



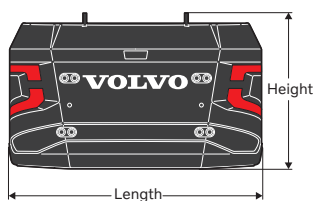
Length	Weight	Quantity
mm	kg	EA
1 250	5	2
1 170	4	2

Cylinder



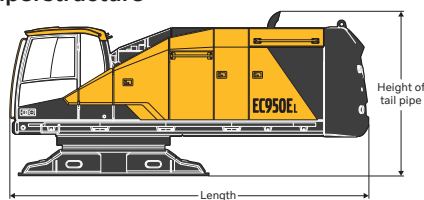
Length	Height	Width	Weight
mm	mm	mm	kg
3 000	600	480	1 800

Counter weight



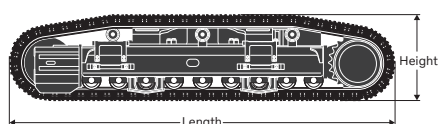
Length	Height	Width	Weight / Unit
mm	mm	mm	kg
3 485	2 150	830	16 100

Superstructure



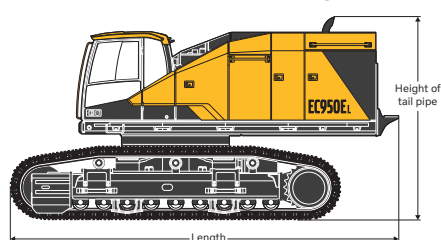
Length	Height of tail pipe	*Width	Weight
mm	mm	mm	kg
6 600	3 015	3 475	42 810

Shoes



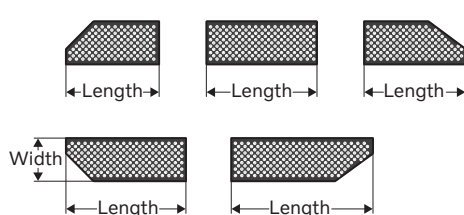
Shoe width	Length	Height	Overall width	Weight / unit
mm	mm	mm	mm	kg
650	6 380	1 445	1 085	12 930

Basic machine w/o counterweight



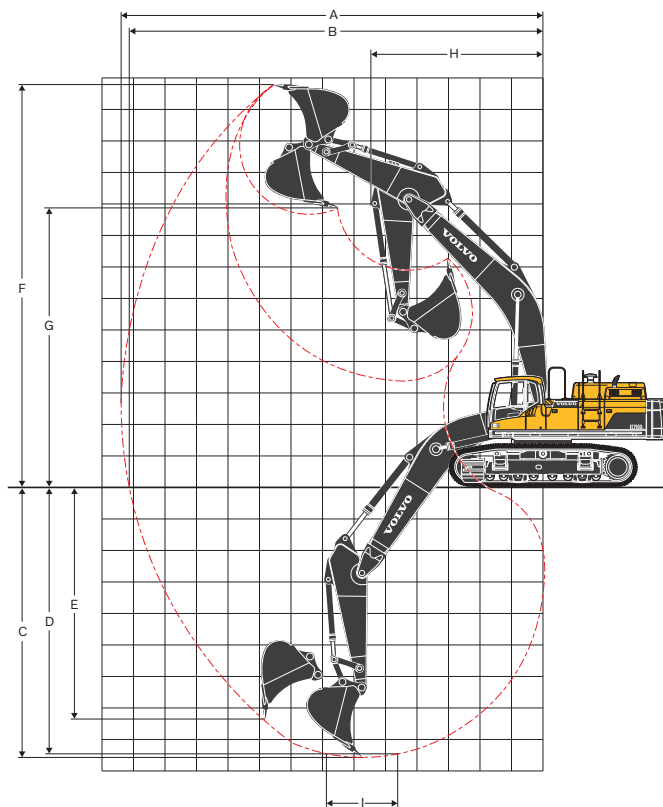
Shoe width	Length	Height of tail pipe	Overall width retracted	Weight
mm	mm	mm	mm	kg
650	7 475	4 025	3 685	52 520

Walkway



Location	Length	Width	Height	Weight
	mm	mm	mm	kg
LH front	1 310	480	65	21
LH rear	1 545	480	65	25
RH front	1 020	480	65	17
RH rear	1 115	480	65	18
Middle	1 210	480	65	21

Specifications



Working Ranges	Unit	EC950EL
Boom	m	7.25
Arm	m	2.95
A. Max. digging reach	mm	12 270
B. Max. digging reach on ground	mm	11 950
C. Max. digging depth	mm	7 120
D. Max. digging depth (l. 2.44 m level)	mm	6 980
E. Max. vertical wall digging depth	mm	5 390
F. Max. cutting height	mm	12 410
G. Max. dumping height	mm	8 090
H. Min. front swing radius	mm	4 970

Digging forces with direct fit bucket		Unit	EC950EL
Bucket radius		mm	2 348
Breakout force - bucket	ISO 6015	kN	478
	SAE J1179	kN	424
Tear out force - arm	ISO 6015	kN	420
	SAE J1179	kN	408
Rotation angle bucket		deg	170

LIFTING CAPACITY EC950EL															
Lifting point			3.0 m		4.5 m		6.0 m		7.5 m		9.0 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: 7.25 m ME	9.0 m	kg	-	-	-	-	-	-	*23 460	*23 460	-	-	*20 910	*20 910	7.696
	7.5 m	kg	-	-	-	-	-	-	*23 510	*23 510	-	-	*20 070	*20 070	8.708
	6.0 m	kg	-	-	*37 120	*37 120	*29 050	*29 050	*24 820	*24 820	*22 420	20 390	*19 950	19 010	9.375
Arm: 2.95 m ME	4.5 m	kg	-	-	-	-	*32 750	*32 750	*26 650	26 340	*23 150	19 890	*20 420	17 440	9.767
	3.0 m	kg	-	-	-	-	*35 920	35 180	*28 390	25 300	*23 940	19 330	*21 470	16 690	9.918
Shoe: 650 mm	1.5 m	kg	-	-	-	-	*37 460	33 930	*29 440	24 490	*24 360	18 870	*22 080	16 620	9.839
	0 m	kg	-	-	*36 090	*36 090	*37 110	33 370	*29 410	24 030	*23 940	18 610	*22 140	17 250	9.524
CWT: 16 100 kg	-1.5 m	kg	*31 420	*31 420	*43 830	*43 830	*34 950	33 320	*27 890	23 930	-	-	*22 010	18 830	8.947
	-3.0 m	kg	*43 960	*43 960	*37 790	*37 790	*30 650	*30 650	*24 050	*24 050	-	-	*21 310	*21 310	8.053
	-4.5 m	kg	-	-	*28 250	*28 250	*22 610	*22 610	-	-	-	-	*18 990	*18 990	6.714

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 shutdown
Delayed engine shutdown
Alternator, 80 A
Electric / Electronic control system
Contronics (advanced mode control system / self diagnostic system)
Machine status indication
Engine speed sensing power control
Emergency engine stop switch
Automatic idling system
Short cut switch
Safety stop/start function
Adjustable 8 inch LCD color monitor
Master electrical disconnect switch
Engine restart prevention circuit
LED lights (10) : Frame - 2 / Boom - 4 / Cab Front - 2 / Cab Rear - 1 / Counterweight - 1
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
Reversible Cooling fan
Hydraulic oil, ISO VG 68
Frame
Access way with handrail
Full height counterweight 16 100 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 grouser
Track Guard
Under cover (10 mm)
Cab and interiors
Falling Object Guard (FOG), cab mounted
Silicon oil and rubber mounts with spring
Adjustable operator seat (fabric) with joystick control console
Control joysticks with semi-long
Heater & air-conditioner, automatic
Flexible antenna
Radio with MP3, AUX & Bluetooth
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 7.25 m
Arm: ME 2.95 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
Travel alarm
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
Hydraulic oil, ISO VG 46
Undercarriage
Full track guard
750 / 900 mm track shoes 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: 8.4 m
Arm: 3.7 m
Service
Electric grease gun

V O L V O