

V O L V O



Volvo Excavators 91.3-94.8 t / 201,227-209,020 lb 602 hp

# EC950F

Volvo Construction Equipment



# 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 180 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 big jobs better, stronger and faster with the EC950F. The 90 tonne crawler excavator offers the perfect combination of power and stability to handle a higher capacity in the toughest applications.

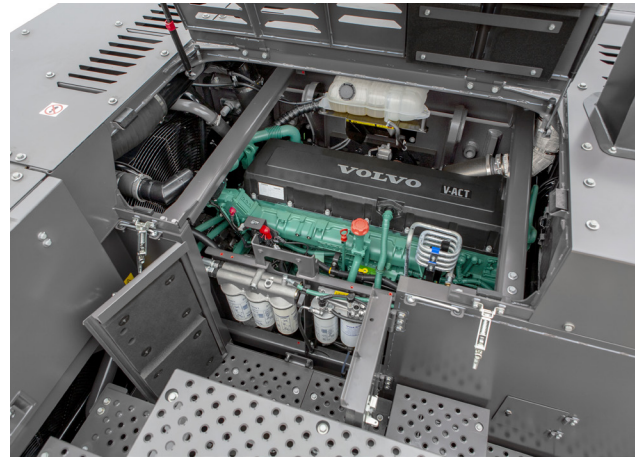
## Solid stability

The outstanding stability of the EC950F means operators can work with confidence in the most challenging environments. The well-balanced and solid machine features a wide track gauge, long track length, retractable undercarriage and an optimized counterweight which can be removed for ease of transportation.



## Powered by Volvo

Rely on a superior performance from the EC950F, featuring a powerful 450kW Volvo D16 engine, which delivers high torque at low rpm. The machine utilizes advanced technology built on decades of experience to ensure a highly productive operation.



## Comfortably productive

For operator convenience, all machine interfaces – including the joysticks, keypad and LCD monitor – are ergonomically positioned and designed for optimum control. The low-noise and spacious cab further enhances operator comfort and performance.



## Buckets to match

Maximize productivity with Volvo buckets, perfectly matched to your machine for ultimate digging results in all working conditions. Our range includes General Purpose and Heavy-Duty buckets, and when your application requires something more unique, we offer Custom-Built Attachments to develop the right solution for you.





# BIGGER MACHINE, BIGGER RESULTS

Gain more profitability in the EC950F, 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 EC950F, no task is too tough. Increase profitability with superior digging force, quick cycle times and outstanding fuel efficiency for a maximum return on investment.

## Fast cycle times

Cut cycle times to a minimum with the fully electro-hydraulic system. The optimized hydraulics system increases pump power for a fast and smooth operation.



## Complete control

For a more efficient operation, the electro-hydraulic system puts superior control in the operator's hands. Utilizing intelligent technology, the easy-to-use system controls on-demand flow and reduces internal losses in the hydraulic circuit. What's more, the EC950F comes with a boom-swing priority valve.



## 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, while 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) and H (Heavy).



## Do more

Take on a range of tasks in the hard-working EC950F. The attachment management system enhances machine versatility by storing settings for up to 20 different attachments, enabling the operator to pre-set hydraulic flow and pressure through the in-cab monitor.





# SUPERIOR DIGGING FORCE

Even in the harshest applications, the EC950F 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 EC950F – always 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 safely and without delay.

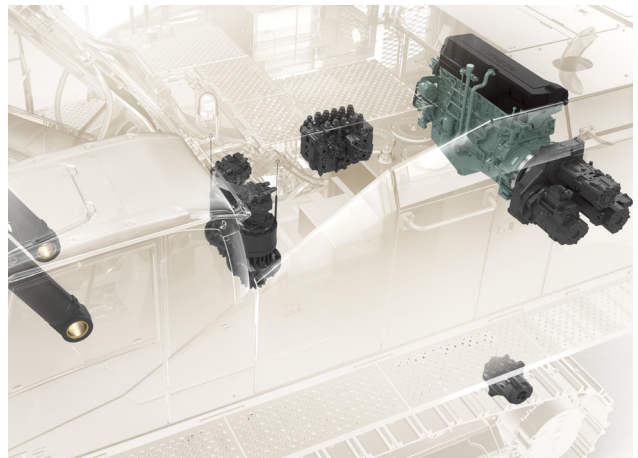
## Durable by design

Achieve non-stop production with the reliable EC950F, built with protected components to deliver maximum longevity in demanding applications. Outstanding machine protection is provided by features including a heavy-duty boom and arm, strong frame structure, heavy-duty underside plate and optional full-length track guard.



## Proven reliability

Count on a solid EC950F 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.



## Wear-resistant digging

For a prolonged bucket lifespan, Volvo offers a range of wear parts including segments, side cutters, shrouds and teeth. When working with heavily compacted material the Pick Point tooth provides maximum penetration, and the new Volvo Tooth System enables teeth changes in minutes: simply place, push and click – it's that easy to install.



## Safety first

Safety is built in to the machine thanks to a large entrance, including high visibility handrails and conveniently positioned steps, as well as anti-slip plates. The optional FOG (Falling Object Guard) and FOPS (Falling Object Protective Structure) provide further peace-of-mind when working in tough applications. For the ultimate in visibility, Volvo Smart View provides a 360° birds-eye-view around the machine, displayed on the in-cab monitor.







# EASY SERVICE ACCESS

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

# Keeping costs down

Engineering machines which deliver outstanding results is just the start of how we can support your operation. As your partner we are here to help with every aspect of your Volvo machinery. Our portfolio of services is designed to complement your machine's performance and boost your profitability.

## Volvo dealer network

Volvo has the right solution for you. By listening to your requirements, we can reduce your total cost of ownership and increase your revenue. With our extensive infrastructure of technicians, workshops and dealers, Volvo has a comprehensive network to fully support you using local knowledge and global experience.



## 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.



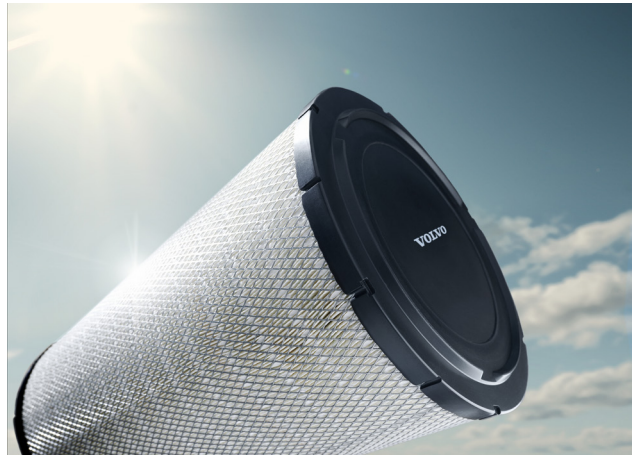
## Customer Support Agreements

The range of Customer Support 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 Customer Support Agreement you are in control of your service costs.



## 24-hours parts delivery guarantee

Maintain productivity and machine uptime with our range of readily available part, all backed by Volvo warranty – with 24-hour parts delivery guarantee. Only by using Genuine Volvo Parts, can you protect your investment, extend machine life and guarantee long-lasting performance.





# EASY MACHINE MONITORING

Maximize machine uptime and reduce repair costs with ActiveCare Direct. Utilizing CareTrack data, the intelligent service provides round the clock machine monitoring and tailored customer reports, helping you to keep track of your fleet and take preventive maintenance actions.

# Go big

## Robust protection

- Heavy-duty boom and arm
- Additional underside plate
- Floating pins on the bucket connection

## Versatility

- General Purpose and Heavy-Duty buckets
- Range of wear parts: teeth, side cutters, segments and wear shrouds
- Custom-Built Attachments for specific applications
- Attachment Management System: pre-set hydraulic flow and pressure



## Efficiently productive

- Powerful 450kW Volvo D16 engine: high torque at low RPM
- Fully electro-hydraulic system
- Constant high hydraulic pressure for superior digging force
- ECO mode, Work modes

## The operator's choice

- Spacious and quiet cab, ergonomic controls
- Boom-swing priority function
- Dig Assist, powered by Volvo Co-Pilot (Option)
- Straight travel pedal
- Pilot control pattern change

## Keep on digging

- Easy service access, wide-opening compartment doors
- Volvo Tooth System: quick, easy and safe installation
- ActiveCare Direct: round-the-clock machine monitoring
- 24-hours parts delivery guarantee



## Solid stability

- Wide track gauge
- Long track length
- Retractable undercarriage
- Optimized counterweight, removable

## Safety first

- High-visibility handrails
- Anti-slip plates
- Central and surrounding walkways
- Volvo Smart View

# Volvo EC950F in detail

## Engine

The engine is a low emission, turbocharged air-to-air cooling, 4-stroke diesel engine with water cooling, direct injection controlled electronically, that meets EPA Tier 4 Final requirements. The engine has been developed especially for excavator use, providing good fuel efficiency, low sound level and a long service life.

**Air Filter** : 3-stage

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

Engine	Volvo	D16J
Max power at	r/min (r/s)	1,650 (27.5)
Net, ISO 9249/SAE J1349	kW (hp)	449 (602)
Gross, ISO 14396/SAE J1995	kW (hp)	450 (603)
Max torque	Nm (ft lbf)	2,700 (1,991)
at engine speed	r/min (r/s)	1,400 (23.3)
No. of cylinders		6
Displacement	l (in <sup>3</sup> )	16.1 (982)
Bore	mm (in)	144 (5.67)
Stroke	mm (in)	165 (6.5)

## Electrical system

Contronics, provides advanced monitoring of machine function and important diagnostic information.  
High capacity and well protected electrical system.  
Centrally located fuse and relay box using clearly arranged printed circuit board mounted, for easy access, behind the cab.  
A master switch is standard.

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

## Undercarriage

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

Track shoes		51 x 2
Link pitch	mm (in)	260.4 (10.25)
Shoe width, double grouser	mm (in)	650/750/900 (26/30/35)
Bottom rollers		9 x 2
Top rollers		3 x 2

## 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 door.  
Integrated air conditioning and heating system: The pressurized and filtered cab air is supplied by automatically controlled fan. The air is distributed via 13 vents.  
Ergonomic operator's seat: The adjustable seat and joystick consoles move independently to accommodate the operator. The seat has nine different adjustments and a seat belt to meet any operator's comfort and safety.

## Swing system

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

Max. slew speed	r/min	6.9
Max. slew torque	kNm (ft lbf)	343 (252,983)

## Travel System

Drive device: 2 step Hydraulic motor with 2 stage planetary reduction gears on each track.  
Framework: All-welded robust torsion box frame.  
Track Gauge: Retractable.

Max. drawbar pull	kN (lbf)	565 (127,008)
Max. travel speed (low)	km/h (mi/h)	2.8 (1.7)
Max. travel speed (high)	km/h (mi/h)	4.4 (2.7)
Gradeability	°	33

## Sound Level

Sound pressure level in cab according to ISO 6396

L <sub>pA</sub>	dB	72
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External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC

L <sub>WA</sub>	dB	109
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## 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 good 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

**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. Type: 3 x variable displacement axial piston pumps

Maximum flow	l/min (gal/min)	2 x 515; 1 x 147 (2 x 136; 1 x 38.8)
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Pilot pump. Type: Gear pump

Maximum flow	l/min (gal/min)	1 x 37.8 (1 x 10)
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Relief value setting pressure

Implement	MPa (psi)	34.3 (4,980)
Travel circuit	MPa (psi)	34.3 (4,980)
Slew circuit	MPa (psi)	28.4 (4,130)
Pilot circuit	MPa (psi)	3.9 (570)

## Hydraulic Motors

**Travel**: Variable displacement axial piston motors

**Slew**: Fixed displacement axial piston motor with mechanical brake

## Hydraulic Cylinders

Mono boom		2
Bore x Stroke	ø x mm (ø x in)	215 x 1 930 (8.5 x 76)
Arm		1
Bore x Stroke	ø x mm (ø x in)	240 x 2 180 (9.4 x 85.8)
Bucket		1
Bore x Stroke	ø x mm (ø x in)	200 x 1 500 (7.9 x 59.1)
ME Bucket		1
Bore x Stroke	ø x mm (ø x in)	230 x 1 500 (9.1 x 59.1)

## Service Refill

Fuel tank	l (gal)	1 265 (334)
Hydraulic system, total	l (gal)	890 (235)
Hydraulic tank	l (gal)	460 (122)
Engine oil	l (gal)	52 (14)
Engine coolant	l (gal)	74 (20)
Slew reduction unit	l (gal)	2 x 6.5 (2 x 1.7)
Travel reduction unit	l (gal)	2 x 25 (2 x 6.6)
PTO gear box	l (gal)	1 x 9.2 (1 x 2.4)
Urea	l (gal)	95 (25)

# Specifications

## GROUND PRESSURE

Description		EC950F														
		Boom 7.25 m (23'9"), Arm 2.95 m (9'8"), Bucket 4.7 m <sup>3</sup> (6.15 yd <sup>3</sup> )							Boom 8.4 m (27'7"), Arm 3.7 m (12'2"), Bucket 3.9 m <sup>3</sup> (5.1 yd <sup>3</sup> )							
		Counterweight 16,200kg (35,715 lb)							Counterweight 16,200kg (35,715 lb)							
Shoe width		Operating weight		Ground pressure		Overall width		Operating weight		Ground pressure		Overall width				
mm in		kg lb		kPa PSI		mm in		kg lb		kPa PSI		mm in				
Double grouser	650	26	91,275	201,227	123.8	18	4,298	169	92,850	204,699	125.9	18.3	4,298	169		
	750	30	92,115	203,079	108.3	15.7	4,300	169	93,690	206,551	110.1	16	4,300	169		
	900	36	93,235	205,548	91.3	13.2	4,450	175	94,810	209,020	92.9	13.5	4,450	175		
			Boom 8.4 m (32' 10"), Arm 5.5 m (18'1"), Bucket 3.9 m <sup>3</sup> (5.1 yd <sup>3</sup> )							Boom 10 m (32'10"), Arm 5.5 m (18'1"), Bucket 3.9 m <sup>3</sup> (5.1 yd <sup>3</sup> )						
			Counterweight 16,200 kg (35,715 lb)							Counterweight 16,200 kg (35,715 lb)						
	Shoe width		Operating weight		Ground pressure		Overall width		Operating weight		Ground pressure		Overall width			
	mm in		kg lb		kPa PSI		mm in		kg lb		kPa PSI		mm in			
	650	26	93,690	206,590	127.1	18.4	4,298	14'1"	94,693	208,800	128.4	18.6	4,298	14'1"		
	750	30	94,530	208,440	111.1	16.1	4,300	14'1"	95,533	210,650	112.3	16.3	4,300	14'1"		
	900	36	95,650	210,910	93.7	13.6	4,450	14'7"	96,653	213,120	94.7	13.7	4,450	14'7"		

## BUCKET SELECTION GUIDE

Bucket type			Capacity		Cutting width		Tip radius		Weight		Teeth	Recommended maximum material density (kg/m <sup>3</sup> / lb/yd <sup>3</sup> )					
												EC950F					
					7.25m (23'9") ME Boom			8.4m (27'7") GP Boom									
					M2.95m (9'8") Arm		M2.95m (9'8") Arm		G3.7m (12'2") Arm								
		l	yd <sup>3</sup>	mm	in	mm	in	kg	lb	EA							
Direct fit Buckets without quick coupler	V4	GP	3,900	5.1	1,970	77.59	2,221	1,970	4,321	9,526	5	1,800	3,034	1,800	3,034	1,800	3,034
			4,700	6.15	2,000	78.7	2,348	2,000	4,648	10,247	5	1,800	3,034	1,800	3,034	1,800	3,034
			5,400	7.06	2,280	89.8	2,348	2,280	4,992	11,005	5	1,800	3,034	1,800	3,034	1,700	2,865
			6,000	7.85	2,350	92.5	2,446	2,350	5,233	11,537	5	1,800	3,034	1,700	2,865	1,500	2,528
		6,500	8.5	2,300	90.6	2,566	2,300	5,277	11,634	5	1,800	3,034	1,500	2,528	1,300	2,191	
		7,000	9.16	2,450	96.5	2,566	2,450	5,583	12,308	6	1,800	3,034	1,400	2,360	1,200	2,023	
		3,900	5.1	1,970	77.59	2,279	1,970	5,299	11,682	5	2,100	3,540	1,800	3,034	1,800	3,034	
		4,700	6.15	2,000	78.7	2,404	2,000	5,722	12,615	5	2,100	3,540	1,800	3,034	1,800	3,034	
	5,200	6.8	2,200	86.6	2,404	2,200	5,999	13,226	5	2,100	3,540	1,800	3,034	1,500	2,528		
	5,400	7.06	2,280	89.8	2,404	2,280	6,137	13,530	5	2,100	3,540	1,700	2,865	1,500	2,528		
	5,600	7.32	2,350	92.5	2,404	2,350	6,261	13,803	5	2,100	3,540	1,600	2,697	1,400	2,360		
	6,000	7.85	2,350	92.5	2,505	2,350	6,198	13,664	5	2,100	3,540	1,500	2,528	1,300	2,191		
	6,500	8.5	2,300	90.6	2,620	2,300	6,264	13,810	5	2,000	3,371	1,400	2,360	1,200	2,023		
	V6	EDX	6,500	8.5	2,750	108.3	2,803	2,750	6,986	15,401	5	1,800	3,034	1,300	2,191	-	-

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

(In case of using bigger bucket than regional standard MRS, consultation with R&D is highly recommended)

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

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

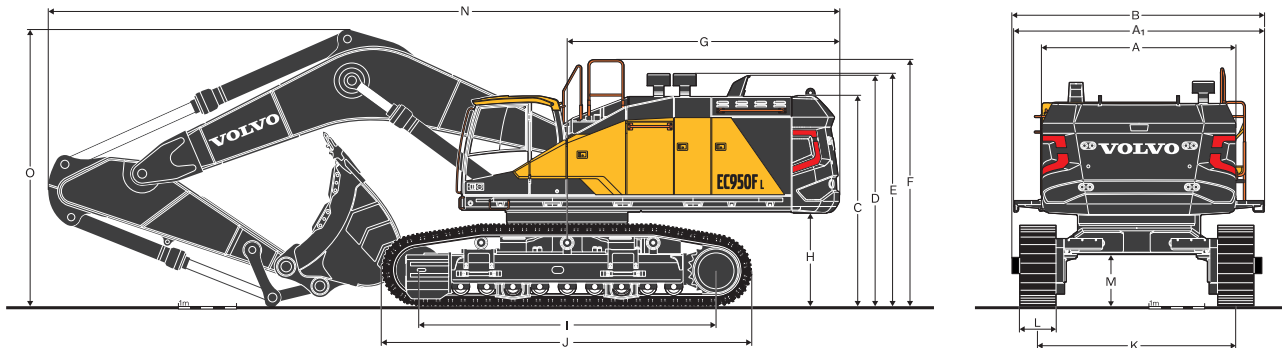
### Maximum material density

kg/m <sup>3</sup>	lb/yd <sup>3</sup>	
1,200~1,300	2,000~2,200	Coal, Caliche, Shale
1,400~1,600	2,300~2,700	Wet earth and clay, Limestone, Sandstone
1,700~1,800	2,800~3,100	Granite, Wet sand, Well blasted rock
1,900~	> 3,200~	Wet mud, Iron ore

X : Not recommended

# Specifications

## DIMENSIONS



Description	Unit		EC950F									
	m	ft in	7.25	23'9"	8.4	27'7"	8.4	27'7"	8.4	27'7"	10	32'10"
<b>Boom</b>	m	ft in	7.25	23'9"	8.4	27'7"	8.4	27'7"	8.4	27'7"	10	32'10"
<b>Arm</b>	m	ft in	2.95	9'8"	2.95	9'8"	3.7	12'2"	5.5	18'1"	5.5	18'1"
A Overall width of superstructure	mm	ft in	3,485	11'5"	3,485	11'5"	3,485	11'5"	3,485	11'5"	3,485	11'5"
A <sub>1</sub> Overall width of superstructure (incl. walkway)	mm	ft in	4,505	14'9"	4,505	14'9"	4,505	14'9"	4,467	14'8"	4,467	14'8"
B Overall width (step to walkway)												
650mm / 26" shoe	mm	ft in	4,515	14'10"	4,515	14'10"	4,515	14'10"	4,515	14'10"	4,515	14'10"
750mm / 30" shoe	mm	ft in	4,515	14'10"	4,515	14'10"	4,515	14'10"	4,515	14'10"	4,515	14'10"
900mm / 36" shoe	mm	ft in	4,520	14'10"	4,520	14'10"	4,520	14'10"	4,520	14'10"	4,520	14'10"
C Overall height of cab	mm	ft in	3,655	11'12"	3,655	11'12"	3,655	11'12"	3,655	12'0"	3,655	12'0"
Overall height of cab, FOG	mm	ft in	3,760	12'4"	3,760	12'4"	3,760	12'4"	3,760	12'4"	3,760	12'4"
D Overall height of tail pipe	mm	ft in	3,990	13'1"	3,990	13'1"	3,990	13'1"	3,990	13'1"	3,990	13'1"
E Overall height of precleaner	mm	ft in	4,025	13'2"	4,025	13'2"	4,025	13'2"	4,025	13'2"	4,025	13'2"
Overall height of oil bath	mm	ft in	4,180	13'9"	4,180	13'9"	4,180	13'9"	4,180	13'9"	4,180	13'9"
F Overall height of guardrail	mm	ft in	4,265	13'12"	4,265	13'12"	4,265	13'12"	4,263	14'0"	4,263	14'0"
G Tail swing radius	mm	ft in	4,700	15'5"	4,700	15'5"	4,700	15'5"	4,700	15'5"	4,700	15'5"
H Counterweight clearance *	mm	ft in	1,620	5'3"	1,620	5'3"	1,620	5'3"	1,623	5'4"	1,623	5'4"
I Tumbler length	mm	ft in	5,120	16'10"	5,120	16'10"	5,120	16'10"	5,120	16'10"	5,120	16'10"
J Track length	mm	ft in	6,380	20'11"	6,380	20'11"	6,380	20'11"	6,380	20'11"	6,380	20'11"
K Track gauge(extended)	mm	ft in	3,550	11'8"	3,550	11'8"	3,550	11'8"	3,550	11'8"	3,550	11'8"
Track gauge (retracted)	mm	ft in	2,980	9'9"	2,980	9'9"	2,980	9'9"	2,980	9'9"	2,980	9'9"
L Shoe width	mm	ft in	650	2'2"	650	2'2"	650	2'2"	650	2'2"	650	2'2"
M Min. ground clearance *	mm	ft in	915	3'0"	915	3'0"	915	3'0"	915	3'0"	915	3'0"
N Overall length												
With Boom/Arm/Bucket	mm	ft in	13,615	44'8"	14,765	48'5"	14,600	47'11"	14,220	46'8"	15,920	52'3"
With Boom/Arm	mm	ft in	14,420	47'4"	14,780	48'6"	14,600	47'11"	14,390	47'3"	16,050	52'8"
With Boom/Arm, Arm pin removed	mm	ft in	13,420	44'0"	14,710	48'3"	14,480	47'6"	14,620	48'0"	16,210	53'2"
With Boom	mm	ft in	11,800	38'9"	12,970	42'7"	12,970	42'7"	12,970	42'7"	14,620	48'0"
O Overall height of boom												
With Boom/Arm/Bucket (with Auxiliary lines)	mm	ft in	4,970	16'4"	4,890	16'1"	4,960	16'3"	5,980	19'7"	5,795	19'0"
With Boom/Arm (with Auxiliary lines)	mm	ft in	4,790	15'9"	4,580	15'0"	4,700	15'5"	5,660	18'7"	5,420	17'9"
With Boom/Arm, Arm pin removed (with Auxiliary lines)	mm	ft in	4,460	14'8"	4,500	14'9"	4,300	14'1"	4,950	16'3"	5,010	16'5"
With Boom (with Auxiliary lines)	mm	ft in	3,890	12'9"	3,810	12'6"	3,810	12'6"	3,810	12'6"	3,970	13'0"
With Boom/Arm/Bucket	mm	ft in	4,840	15'11"	4,700	15'5"	4,780	15'8"	5,890	19'4"	5,700	18'8"
With Boom/Arm	mm	ft in	4,540	14'11"	4,400	14'5"	4,480	14'8"	5,550	18'3"	5,320	17'5"
With Boom/Arm, Arm pin removed	mm	ft in	4,290	14'1"	4,170	13'8"	4,280	14'1"	4,760	15'7"	4,930	16'2"
With Boom	mm	ft in	3,620	11'11"	3,720	12'2"	3,720	12'2"	3,720	12'2"	3,880	12'9"
P Width of Track (retracted)												
650mm / 26" shoe	mm	ft in	3,630	11'10"	3,630	11'10"	3,630	11'10"	3,630	11'11"	3,630	11'11"
750mm / 30" shoe	mm	ft in	3,920	12'10"	3,920	12'10"	3,920	12'10"	3,920	12'10"	3,920	12'10"
900mm / 36" shoe	mm	ft in	4,070	13'4"	4,070	13'4"	4,070	13'4"	4,070	13'4"	4,070	13'4"
Width of Track (extended)												
650mm / 26" shoe	mm	ft in	4,200	13'9"	4,200	13'9"	4,200	13'9"	4,200	13'9"	4,200	13'9"
750mm / 30" shoe	mm	ft in	4,300	14'1"	4,300	14'1"	4,300	14'1"	4,300	14'1"	4,300	14'1"
900mm / 36" shoe	mm	ft in	4,450	14'7"	4,450	14'7"	4,450	14'7"	4,450	14'7"	4,450	14'7"

\* With shoe grouser

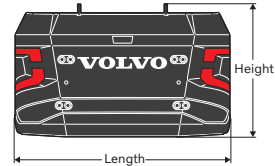


Boom cylinder							
Length		Height		Width		Weight	
mm	ft in	mm	ft in	mm	ft in	kg	lb
3,000	9'10"	600	2'0"	480	1'7"	1,800	3,968

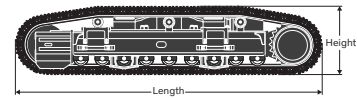


Hose of Boom cylinder				
Length		Weight		Q'ty
mm	ft in	kg	lb	EA
1,250	4'1"	5	11.0	2
1,170	3'10"	4	8.8	2

Counterweight							
Length		Height		Width		Weight	
mm	ft in	mm	ft in	mm	ft in	kg	lb
3,485	11'5"	2,150	7'1"	830	2'9"	16,100	35,494

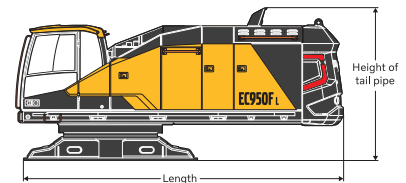


Shoes									
Shoe width		Length		Height		Overall width		Weight / unit	
mm	ft in	mm	ft in	mm	ft in	mm	ft in	kg	lb
650	2'2"	6,380	20'11"	1,445	4'9"	1,085	3'7"	12,930	28,506
750	2'6"	6,380	20'11"	1,445	4'9"	1,085	3'7"	13,300	29,321
900	2'11"	6,380	20'11"	1,445	4'9"	1,160	3'10"	13,860	30,556

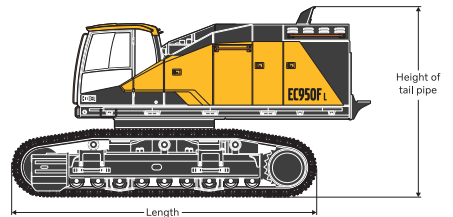


Superstructure							
Length		Height of tail pipe		Width*		Weight	
mm	ft in	mm	ft in	mm	ft in	kg	lb
6,600	21'8"	3,077	10'1"	3,475	11'5"	45,000	99,000

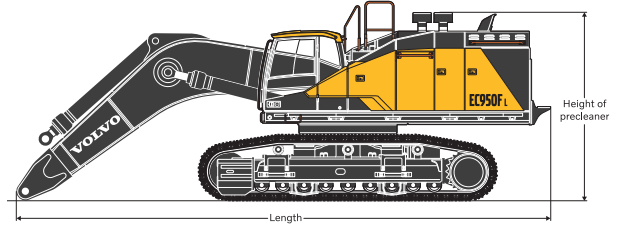
\*Upper structure rotated by 90deg (across)



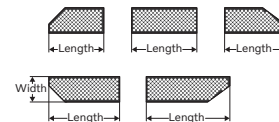
Basic machine (without counterweight)									
Shoe width		Length		Height of tail pipe		Overall width (retracted)		Weight	
mm	ft in	mm	ft in	mm	ft in	mm	ft in	kg	lb
650	2'2"	7,475	24'6"	3,990	13'1"	3,685	12'1"	52,520	115,787
750	2'6"	7,475	24'6"	3,990	13'1"	3,685	12'1"	53,270	117,440
900	2'11"	7,475	24'6"	3,990	13'1"	3,690	12'1"	54,390	119,909



Superstructure, including UC and Boom, excluding CWT						
Boom	Shoe width		Length		Weight	
	mm	ft in	mm	ft in	kg	lb
7.25 m / 23'9"	650	2'2"	11,332	37'2"	66,655	144,770
	750	2'6"	11,332	37'2"	66,490	146,610
	900	2'11"	11,332	37'2"	67,610	149,080
8.4 m / 27'7"	650	2'2"	12,555	41'2"	66,120	145,790
	750	2'6"	12,555	41'2"	66,960	147,650
	900	2'11"	12,555	41'2"	68,080	150,020
10 m / 32'10"	650	2'2"	14,220	46'8"	66,816	147,303
	750	2'6"	14,220	46'8"	67,656	149,156
	900	2'11"	14,220	46'8"	68,776	151,625



Walkway								
Location	Length		Width		Height		Weight	
	mm	ft in	mm	ft in	mm	ft in	kg	lb
LH front	1,310	4'4"	480	1'7"	65	0'3"	21	46.3
LH rear	1,545	5'1"	480	1'7"	65	0'3"	25	55.1
RH front	1,020	3'4"	480	1'7"	65	0'3"	17	37.5
RH rear	1,115	3'8"	480	1'7"	65	0'3"	18	39.7
Middle	1,210	3'12"	480	1'7"	65	0'3"	21	46.3



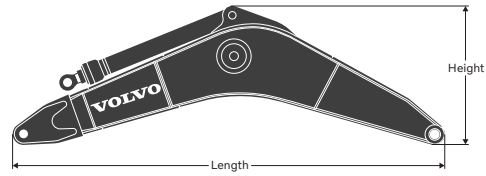
Lower frame with swing ring							
Length (A)		Width (B)		Height		Weight	
mm	ft in	mm	ft in	mm	ft in	kg	lb
3,500	11'6"	2,520	8'3"	1,095	3'7"	7,925	17,470

Superstructure w/o swing ring							
Length (A)		Height of tail pipe (B)		Width		Weight	
mm	ft in	mm	ft in	mm	ft in	kg	lb
6,195	20'4"	2,508	8'3"	3,475	11'5"	20,880	46,030

# Specifications

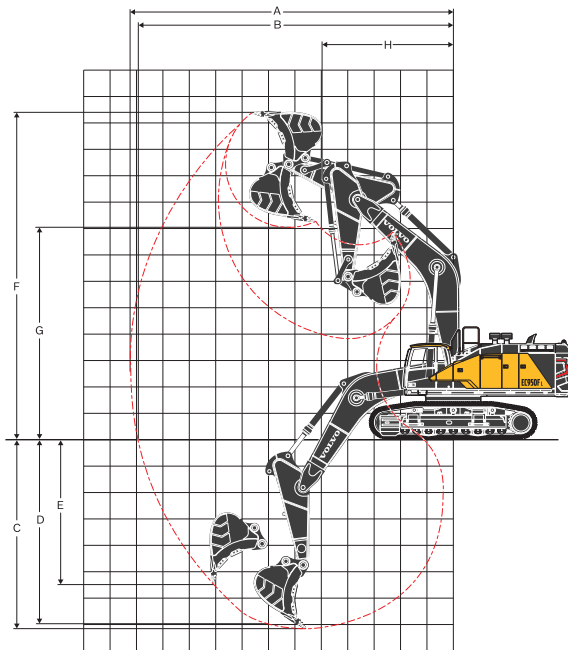
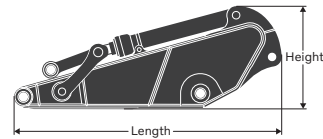
Description		Unit		EC950F							
Boom		m	ft in	7.25	23'9"	8.4	27'7"	10	32'10"		
A	Length	mm	ft in	7,620	25'0"	8,770	28'9"	10,370	34'0"		
B	Height	mm	ft in	2,430	8'0"	2,200	7'3"	2,310	7'7"		
Width		mm	ft in	1,100	3'7"	1,100	3'7"	1,110	3'8"		
Weight		kg	lb	9,455	20,840	9,925	21,880	10,608	23,390		

\* Includes cylinder, piping and pin



Description		Unit		EC950F							
Arm		m	ft in	2.95	9'8"	3.7	12'2"	5.5	17'1"		
A	Length	mm	ft in	4,470	14'8"	5,210	17'1"	6,990	22'11"		
B	Height	mm	ft in	1,675	5'6"	1,485	4'10"	1,480	4'10"		
Width		mm	ft in	740	2'5"	740	2'5"	740	2'5"		
Weight		kg	lb	5,480	12,080	5,424	11,958	6,144	13,550		

\* Includes bucket cylinder, linkage and pin



## WORKING RANGES

Description		Unit		EC950F									
Boom		m	ft in	7.25	23'9"	8.4	27'7"	10	32'10"				
Arm		m	ft in	2.95	9'8"	3.7	12'2"	5.5	18'1"				
A	Max. digging reach	mm	ft in	12,270	40'3"	13,480	44'3"	14,020	45'12"	15,800	51'10"	17,410	57'1"
B	Max. digging reach on ground	mm	ft in	11,950	39'2"	13,190	43'3"	13,750	45'1"	15,560	51'1"	17,190	56'5"
C	Max. digging depth	mm	ft in	7,120	23'4"	8,330	27'4"	8,950	29'4"	10,860	35'8"	11,880	39'0"
D	Max. digging depth (l = 2.44 m / 8'0" level)	mm	ft in	6,980	22'11"	8,180	26'10"	8,820	28'11"	10,760	35'4"	11,785	38'8"
E	Max. vertical wall digging depth	mm	ft in	5,390	17'8"	6,450	21'2"	7,300	23'11"	7,960	26'1"	10,160	33'4"
F	Max. cutting height	mm	ft in	12,410	40'9"	13,100	42'12"	13,280	43'7"	14,140	46'5"	15,600	51'2"
G	Max. dumping height	mm	ft in	8,090	26'7"	8,790	28'10"	9,200	30'2"	10,000	32'10"	11,440	37'6"
H	Min. front swing radius	mm	ft in	4,970	16'4"	6,010	19'9"	5,910	19'5"	2,000	6'7"	3,350	11'0"

## DIGGING FORCES WITH DIRECT FIT BUCKET

Bucket radius		mm	ft in	2,348	7'8"	2,348	7'8"	2,221	7'3"	1,954	6'5"	1,954	6'5"
Breakout force - bucket	ISO 6015	kN	lbf	478	107,459	478	107,459	388	87,226	388	87,260	388	87,260
	SAE J1179	kN	lbf	424	95,319	424	95,319	341	76,660	343	77,110	343	77,110
Tearout force - dipper arm	ISO 6015	kN	lbf	420	94,420	420	94,420	359	80,706	271	60,930	271	30,930
	SAE J1179	kN	lbf	408	91,722	408	91,722	350	78,683	267	60,030	267	60,030
Rotation angle, bucket		kN	lbf	170	38,218	170	38,218	170	38,218	170	38,218	170	38,218



# Specifications

## LIFTING CAPACITY EC950F

Lifting capacity at the arm end without bucket. For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level		4.5 m / 15 ft		6.0 m / 20 ft		7.5 m / 25 ft		9.0 m / 30 ft		10.5 m / 35 ft		12.0 m / 39.4 ft		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	Along UC	Across UC	Max.		
Boom: 8.4 m GP 27'7" GP Arm: 5.5 m ME 18'1" ME Shoe: 650 mm 26" CWT: 16,100 kg 35,500 lb	10.5 m	kg										*11,480	*11,480			*8,440	*8,440	11.1 m	
	35 ft	lb										*25,309	*25,309			*18,607	*18,607	36.4 ft	
	9.0 m	kg										*13,580	*13,580	*8,080	*8,080	*8,050	*8,050	12.0 m	
	30 ft	lb										*29,939	*29,939	*17,813	*17,813	*17,747	*17,747	39.4 ft	
	7.5 m	kg										*14,500	*14,500	*11,890	*11,890	*7,870	*7,870	12.2 m	
	25 ft	lb										*31,967	*31,967	*26,213	*26,213	*17,350	*17,350	41.7 ft	
	6.0 m	kg																	
	20 ft	lb																	
	4.5 m	kg						*20,960	*20,960	*18,100	*18,100	*16,170	15,930	*14,810	12,680	*9,960	*7,960	13.4 m	
	15 ft	lb						*46,209	*46,209	*39,904	*39,904	*35,649	35,120	*32,650	27,955	*17,549	*17,549	44.0 ft	
	3.0 m	kg																	
	10 ft	lb																	
	1.5 m	kg																	
	5 ft	lb																	
	0 m	kg																	
	0 ft	lb																	
	-1.5 m	kg																	
	-5 ft	lb																	
	-3.0 m	kg																	
	-10 ft	lb																	
	-4.5 m	kg																	
	-15 ft	lb																	
	-6.0 m	kg																	
	-20 ft	lb																	
	-7.5 m	kg																	
-25 ft	lb																		
Boom: 10 m GP 32'10" GP Arm: 5.5 m ME 18'1" ME Shoe: 650 mm 26" CWT: 16,100 kg 35,500 lb	10.5 m	kg																	
	35 ft	lb																	
	9.0 m	kg																	
	30 ft	lb																	
	7.5 m	kg																	
	25 ft	lb																	
	6.0 m	kg																	
	20 ft	lb																	
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	-3.0 m	kg																	
	-10 ft	lb																	
	-4.5 m	kg																	
	-15 ft	lb																	
	-6.0 m	kg																	
	-20 ft	lb																	
	-7.5 m	kg																	
-25 ft	lb																		
-9.1 m	kg																		
-30 ft	lb																		

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 EC950F**

Lifting capacity at the arm end without bucket. For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	4.5 m / 15 ft		6.0 m / 20 ft		7.5 m / 25 ft		9.0 m / 30 ft		10.5 m / 35 ft		12.0 m / 39.4 ft		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	Along UC	Across UC	Max.	
<b>Boom:</b> 7.25 m ME 23'9" ME <b>Arm:</b> 2.95 m ME 9'8" ME <b>Shoe:</b> 750 mm 30" <b>CWT:</b> 16,100 kg 35,500 lb	9.0 m	kg					*23,410	*23,410							*20,920	*20,920	7.70 m
	30 ft	lb					*51,610	*51,610							*46,121	*46,121	25.3 ft
	7.5 m	kg					*23,470	*23,470							*20,070	*20,070	8.71 m
	25 ft	lb					*51,742	*51,742							*44,247	*44,247	28.6 ft
	6.0 m	kg	*37,080	*37,080	*29,020	*29,020	*24,780	*24,780	*22,380	21,000					*19,970	19,590	9.37 m
	20 ft	lb	*81,747	*81,747	*63,978	*63,978	*54,630	*54,630	*49,339	46,297					*44,026	43,189	30.7 ft
	4.5 m	kg			*32,710	*32,710	*26,610	*26,610	*23,110	20,500					*20,420	17,990	9.77 m
	15 ft	lb			*72,113	*72,113	*58,665	*58,665	*50,949	45,195					*45,018	39,661	32.1 ft
	3.0 m	kg			*35,880	*35,880	*28,340	*28,340	*23,900	19,940					*21,470	17,230	9.92 m
	10 ft	lb			*79,102	*79,102	*62,479	*62,479	*52,690	43,960					*47,333	37,986	32.5 ft
	1.5 m	kg			*37,410	35,010	*29,400	25,280	*24,320	19,480					*22,040	17,160	9.84 m
	5 ft	lb			*82,475	77,184	*64,816	55,733	*53,616	42,946					*48,590	37,831	32.3 ft
	0 m	kg	*36,060	*36,060	*37,060	34,450	*29,360	24,810	*23,890	19,220					*22,100	17,810	9.52 m
	0 ft	lb	*79,499	*79,499	*81,703	75,949	*64,728	54,697	*52,668	42,373					*48,722	39,264	31.2 ft
	-1.5 m	kg	*43,770	*43,770	*34,900	34,400	*27,850	24,720							*21,980	19,450	8.95 m
	-5 ft	lb	*96,496	*96,496	*76,941	75,839	*61,399	54,498							*48,458	42,880	29.4 ft
	-3.0 m	kg	*37,740	*37,740	*30,610	*30,610	*24,000	*24,000							*21,280	*21,280	8.05 m
	-10 ft	lb	*83,202	*83,202	*67,483	*67,483	*52,911	*52,911							*46,914	*46,914	26.4 ft
-4.5 m	kg	*28,200	*28,200	*22,570	*22,570									*18,960	*18,960	6.71 m	
-15 ft	lb	*62,170	*62,170	*49,758	*49,758									*41,800	*41,800	22.0 ft	
<b>Boom:</b> 8.4 m GP 27'7" GP <b>Arm:</b> 2.95 m ME 9'8" ME <b>Shoe:</b> 750 mm 30" <b>CWT:</b> 16,100 kg 35,500 lb	10.5 m	kg												*20,930	*20,930	7.98 m	
	35 ft	lb													*46,143	*46,143	26.2 ft
	9.0 m	kg					*20,980	*20,980	*19,710	*19,710					*19,670	*19,670	9.21 m
	30 ft	lb					*46,253	*46,253	*43,453	*43,453					*43,365	*43,365	30.2 ft
	7.5 m	kg					*22,100	*22,100	*19,870	*19,870					*19,040	17,340	10.07 m
	25 ft	lb					*48,722	*48,722	*43,806	*43,806					*41,976	38,228	33.0 ft
	6.0 m	kg			*29,430	*29,430	*23,880	*23,880	*20,700	20,440	*18,820	15,900			*18,710	15,510	10.65 m
	20 ft	lb			*64,882	*64,882	*52,646	*52,646	*45,636	45,062	*41,491	35,053			*41,248	34,194	34.9 ft
	4.5 m	kg					*25,850	25,760	*21,740	19,700	*19,180	15,560			*18,560	14,440	11.00 m
	15 ft	lb					*56,989	56,791	*47,928	43,431	*42,285	34,304			*40,918	31,835	36.1 ft
	3.0 m	kg					*27,440	24,610	*22,660	19,010	*19,550	15,180			*18,510	13,900	11.13 m
	10 ft	lb					*60,495	54,256	*49,957	41,910	*43,100	33,466			*40,808	30,644	36.5 ft
	1.5 m	kg					*28,220	23,830	*23,170	18,470	*19,660	14,880			*18,490	13,830	11.06 m
	5 ft	lb					*62,214	52,536	*51,081	40,719	*43,343	32,805			*40,763	30,490	36.3 ft
	0 m	kg			*34,670	32,640	*28,010	23,430	*23,050	18,160	*19,190	14,720			*18,440	14,230	10.78 m
	0 ft	lb			*76,434	71,959	*61,751	51,654	*50,816	40,036	*42,307	32,452			*40,653	31,372	35.4 ft
	-1.5 m	kg			*32,520	*32,520	*26,770	23,370	*22,030	18,100					*18,250	15,230	10.28 m
	-5 ft	lb			*71,694	*71,694	*59,018	51,522	*48,568	39,904					*40,234	33,576	33.7 ft
-3.0 m	kg	*33,510	*33,510	*29,220	*29,220	*24,290	23,610	*19,590	18,350					*17,720	17,140	9.51 m	
-10 ft	lb	*73,877	*73,877	*64,419	*64,419	*53,550	52,051	*43,189	40,455					*39,066	37,787	31.2 ft	
-4.5 m	kg	*27,570	*27,570	*24,190	*24,190	*19,820	*19,820							*16,380	*16,380	8.41 m	
-15 ft	lb	*60,781	*60,781	*53,330	*53,330	*43,696	*43,696							*36,112	*36,112	27.6 ft	
-6.0 m	kg			*15,720	*15,720											6.81 m	
-20 ft	lb			*34,657	*34,657											22.3 ft	

- 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 EC950F**

Lifting capacity at the arm end without bucket. For lifting capacity including bucket, simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	4.5 m / 15 ft		6.0 m / 20 ft		7.5 m / 25 ft		9.0 m / 30 ft		10.5 m / 35 ft		12.0 m / 39.4 ft		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	Along UC	Across UC	Max.		
<b>Boom:</b> 10 m GP 32'10" GP <b>Arm:</b> 5.5 m ME 18'1" ME <b>Shoe:</b> 750 mm 30" <b>CWT:</b> 16,100 kg 35,500 lb	10.5 m	kg											*11,770	*11,770	*8,920	*8,920	13.0 m	
	35 ft	lb												*25,948	*25,948	*19,665	*19,665	42.7 ft
	9.0 m	kg												*11,890	*11,890	*8,680	*8,680	13.8 m
	30 ft	lb												*26,213	*26,213	*19,136	*19,136	45.3 ft
	7.5 m	kg									*13,280	*13,280	*12,250	*12,250	*8,590	*8,590	14.4 m	
	25 ft	lb										*29,277	*29,277	*27,007	*27,007	*18,938	*18,938	47.2 ft
	6.0 m	kg					*18,850	*18,850	*16,030	*16,030	*14,120	*14,120	*12,770	12,520	*8,620	8,300	14.8 m	
	20 ft	lb					*41,557	*41,557	*35,340	*35,340	*31,129	*31,129	*28,153	27,602	*19,004	18,298	48.6 ft	
	4.5 m	kg					*21,130	*21,130	*17,450	*17,450	*15,040	15,000	*13,350	12,010	*8,770	7,850	15.0 m	
	15 ft	lb					*46,584	*46,584	*38,471	*38,471	*33,157	33,069	*29,432	26,477	*19,335	17,306	49.2 ft	
	3.0 m	kg					*23,160	*23,160	*18,780	17,990	*15,930	14,240	*13,930	11,500	*9,040	7,580	15.1 m	
	10 ft	lb					*51,059	*51,059	*41,403	39,661	*35,120	31,394	*30,710	25,353	*19,930	16,711	49.5 ft	
	1.5 m	kg					*24,600	22,060	*19,830	17,030	*16,650	13,570	*14,400	11,040	*9,450	7,480	15.1 m	
	5 ft	lb					*54,234	48,634	*43,718	37,545	*36,707	29,917	*31,747	24,339	*20,834	16,491	49.5 ft	
	0 m	kg			*18,810	*18,810	*25,300	21,150	*20,460	16,310	*17,120	13,050	*14,700	10,670	*10,030	7,550	14.9 m	
	0 ft	lb			*41,469	*41,469	*55,777	46,628	*45,107	35,957	*37,743	28,770	*32,408	23,523	*22,112	16,645	48.9 ft	
	-1.5 m	kg			*23,140	*23,140	*25,280	20,660	*20,610	15,860	*17,250	12,690	*14,720	10,410	*10,850	7,790	14.5 m	
	-5 ft	lb			*51,015	*51,015	*55,733	45,547	*45,437	34,965	*38,030	27,977	*32,452	22,950	*23,920	17,174	47.6 ft	
	-3.0 m	kg	*18,170	*18,170	*29,580	29,010	*24,580	20,490	*20,230	15,650	*16,950	12,500	*14,360	10,280	*11,210	8,260	14.0 m	
	-10 ft	lb	*40,058	*40,058	*65,213	63,956	*54,190	45,173	*44,599	34,502	*37,368	27,558	*31,658	22,663	*24,714	18,210	45.9 ft	
-4.5 m	kg	*25,540	*25,540	*28,310	*28,310	*23,210	20,570	*19,250	15,650	*16,120	12,500	*13,460	10,320	*11,080	9,030	13.3 m		
-15 ft	lb	*56,306	*56,306	*62,413	*62,413	*51,169	45,349	*42,439	34,502	*35,538	27,558	*29,674	22,752	*24,427	19,908	43.6 ft		
-6.0 m	kg	*30,710	*30,710	*25,350	*25,350	*21,050	20,890	*17,530	15,870	*14,530	12,700	*11,540	10,600	*10,740	10,270	12.3 m		
-20 ft	lb	*67,704	*67,704	*55,887	*55,887	*46,407	46,055	*38,647	34,987	*32,033	27,999	*25,441	23,369	*23,678	22,641	40.4 ft		
-7.5 m	kg	*25,190	*25,190	*21,260	*21,260	*17,820	*17,820	*14,720	*14,720	*11,580	*11,580			*10,020	*10,020	11.1 m		
-25 ft	lb	*55,534	*55,534	*46,870	*46,870	*39,286	*39,286	*32,452	*32,452	*25,529	*25,529			*22,090	*22,090	36.4 ft		
-9.1 m	kg	*14,637	*14,637	*12,052	*12,052	*8,668	*8,668							*8,205	*8,205	9.3 m		
-30 ft	lb	*32,270	*32,270	*26,570	*26,570	*19,110	*19,110							*18,090	*18,090	30.5 ft		

- 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.







# 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
Cyclone pre-cleaner
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
Emergency engine stop switch
Automatic idling system
Short cut switch
Safety stop/start function
Adjustable 8inch LCD color monitor
Master electrical disconnect switch
Engine restart prevention circuit
High-capacity halogen lights:
Cab-mounted 2
Frame-mounted 2
Boom-mounted 4
Batteries, 2 x 12 V / 210 Ah
Start motor, 28 V / 6.6 kW

### Frame

Access way with handrail
Full height counterweight 16 100kg, 35,500 lbs
Tool storage area
Side walk-way
Under cover (heavy duty 4.5mm, 0.2")
Punched metal anti-slip plates

### Undercarriage

Mechanically retractable track gauge
Hydraulic track adjusters
Greased and sealed track link
Track Guard
Under cover (10mm, 0.4")

### Hydraulic system

Automatic sensing hydraulic system
Summation system
Boom priority
Arm priority
Swing priority
Boom-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
Automatic two-speed travel motors
Hydraulic oil, ISO VG 46
Pilot control pattern change

## STANDARD EQUIPMENT

### Cab and interior

Silicon oil and rubber mounts with spring
Adjustable operator seat with heater and joystick control console
Control joysticks with semi-long
Heater & air-conditioner, automatic
Flexible antenna
Radio with CD player & MP3 player and USB
Hydraulic safety lock lever
Cab, all-weather sound suppressed, includes:
Cup holders
Door locks
Tinted glass
Floor mat
Horn
Large storage area
Pull-up type front window
Removable lower windshield
Seat belt
Safety glass
Sun screens, front, roof, rear
Windshield wiper with intermittent feature
Master key

### Track shoes

Track shoes, 900 mm, 36" with double grouser
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### Digging equipment

Boom: 8.4 m, 27'7"
Arm: 2.95 m, 9'8"
Manual centralized lubrication

## OPTIONAL EQUIPMENT

### Engine

Block heater: 120 V, 240 V
Dual stage oil bath pre-cleaner
Diesel coolant heater, 10 Kw, 12 Kw
Water separator with heater
Extra water separator
Auto engine shutdown
Fuel filler pump, 100 l/min, 26.4 gpm, with automatic shut-off
Reversible cooling fan

### Electric

Extra lights :
Cab-mounted 3 (front 2, rear 1)
Boom-mounted 4
Frame-mounted 2
Counterweight-mounted 1
Travel alarm
Anti-theft system
Rotating warning beacon

### Frame

Full height counterweight, removal type 16,100 kg, 35,500 lbs
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### Undercarriage

Full track guard
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## OPTIONAL EQUIPMENT

### Hydraulic system

Hose rupture valve: boom, arm
Straight travel pedal
Boom float function with HRV
Boom float function without HRV
Hydraulic piping:
Work tool management system (up to 20 programmable memories)
Hammer & shear, 1 and 2 pump flow
Hammer & shear: variable flow and pressure pre-setting
Additional return filter
Slope & rotator
Grapple
Quick coupler piping
Hydraulic oil, ISO VG 32, 68
Hydraulic oil, biodegradable 46
Hydraulic oil, longlife oil 32, 46, 68
Hydraulic hose for Artic

## OPTIONAL EQUIPMENT

### Cab and interior

One-piece fixed front windshield
Fabric seat without heater
Fabric seat with heater and air suspension
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
Cab-mounted falling object protective structure (FOPS)
Smoker kit (ashtray and lighter)
Safety net for front window
Sunlight protection, roof (steel)
Lower wiper with intermittent control
Cleaning air gun
Rear view camera
Side view camera
Volvo smart view
Dig assist
On board weighing system
Specific key

### Track shoes

650/750mm, (26"/30") track shoes with double grousers

### Digging equipment

Boom: 7.25m, 23'9"

Arm: 3.7m, 12'2"

### Service

Tool kit, daily maintenance
Tool kit, full scale
Special tool for retractable frame
Automatic lubrication system

### Others

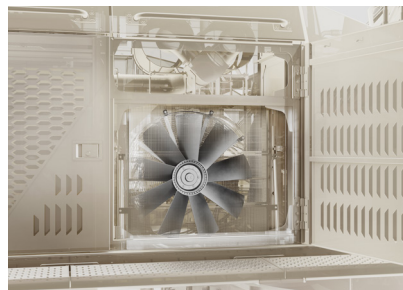
Auto fire suppression system
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## SELECTION OF VOLVO OPTIONAL EQUIPMENT

X1/X3 quick fit auxiliary lines



Reversible cooling fan



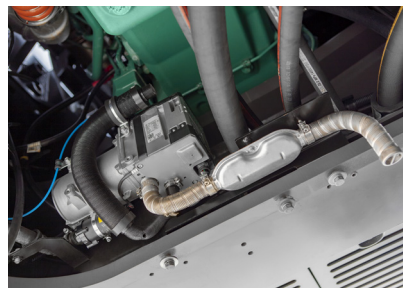
Additional protection options



Fire Suppression System



Coolant heater



Dig Assist, powered by Volvo Co-Pilot



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

**V O L V O**