

V O L V O



Volvo Excavators 48.1 - 52.8 t 424 hp

EC500 HYBRID

Volvo Construction Equipment

EC500 HYBRID

A popular machine across the globe now comes
in a bigger size with more power.



Get a new edge with more power

Used on mining sites, in quarries and on heavy construction sites across the globe, EC500 is one of Volvo's most popular machines made bigger. The powerful and efficient EC500 boasts up to 15% in improved fuel efficiency and a lower Total Cost of Ownership. Now even easier to service and with a comfortable modern cab, it is a machine that meets the requirements of everyone from owner to operator

Operator comfort



- More precise controls
- Quieter cab
- Personalized settings for greater comfort
- ROPS cab as standard

Smart View with Obstacle Detection



- Increased safety onsite and for the operator
- Radar warns for items outside the screen
- HD screen
- Human identifying alarm separate from other obstacles

Serviceability



- Ground level access for service
- Long service intervals
- Grouped filters and lubrication points
- Quick and easy oil changes

Fuel Efficiency



- Up to 17% improvement
- Powerful and efficiency Volvo engine
- 3% lower engine RPM
- 5% hydraulic system improvement

Productivity



- Volvo Active Control
- Dig Assist with On-Board Weighing
- Electro-hydraulic system
- Boom/Swing & Boom/Travel priority functions

Co-Pilot

The new Volvo Co-Pilot features a new 12.8" display with full HD resolution. Associated with the new HD side and rear camera, it gives better visibility on your operations. Both hardware and software improvements provide increased control on the Dig Assist applications.



Smooth Control

You will find the new joystick controls offer smoother, easier operation. Because the controls are more precise, it is easier for you to achieve what you are trying to do, leading to better machine performance.

Volvo Smart View

Volvo Smart View with Obstacle Detection provides operators with a 360° view of the machines surroundings thanks to the camera and the new radar detection system. This high technology can identify obstacles as either an object or a human being, allowing the operator to take appropriate action.

Stay connected

In the comfort of the new cab, you can charge your mobile phone wirelessly or plugged in. You also have the option to use USB connections to access your music playlists or podcasts. The Bluetooth speaker enables you to have clear communication when making a phone call.

Comfort

The new style cab's ambition is to be more comfortable and make your work easier. A handy storage space allows you to store your coolbox or shoes while you work. You will enjoy reduced noise levels, built-in sunscreen and improved HVAC. Moreover, the new comfortable seat offer will allow to reduce the operator fatigue when working all day.

Fuel efficiency

In the new Volvo excavators our improved electro-hydraulic system reduces your fuel consumption dramatically. It is done by regulating engine speed and hydraulic flow rate based on the task at hand. This ensures that only the necessary amount of energy is used, leading to improved fuel efficiency and lower operating costs.

Outstanding cooling performance

The EC500 is equipped with a smart cooling system that consists of electric and hydraulic fans. It automatically adjusts fan speed according to engine coolant temperature and hydraulic workload. This minimizes unnecessary energy consumption and improves overall fuel efficiency.

By reducing engine load and preventing overheating, the system ensures optimum excavator performance, extends component life and lowers operating costs.

New electro-hydraulic system

At the heart of the fuel efficiency improvements is the new electro-hydraulic system with enhanced main control valve (MCV). This intelligent technology uses electronic sensors to monitor the operator's movements and send signals to the machine's on-board computer (ECU) which processes the information and sends commands to the main control valve. The result is smooth and precise movement of the excavator's boom, bucket, and other hydraulic functions allowing for more accurate digging and loading.

Dig Assist

A must-have on the modern construction site, Dig Assist provides unrivalled machine guidance and control technology, enabling operators to work with the highest levels of precision and accuracy.

The addition of On-Board Weighing provides real-time insights into the bucket's load, helping to eliminate over-loading, underloading, reweighing and waiting times.

Productivity

Advanced electric control joystick and full electric travel pedals provide lightning-fast response times. Boom/Swing priority functions help operators work with speed and ease by prioritizing one function over another, improving cycle times.



Serviceability

Minimizing downtime is key to protect your total cost of ownership. Easy access, clean and quick oil changes, as well as 1 000-hour intervals for engine oil, oil and fuel filter further increase your machine availability. Swing out condenser also makes cleaning of the radiator and oil cooler more convenient.



Volvo EC500 Hybrid in detail

Engine

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

Air Filter: 3-stage and precleaner

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 levels.

Engine	Volvo	Volvo D13J
Max power at	r/min	1 600
Net, ISO 9249/SAE J1349	kW	311
	hp	423
Gross, ISO 14396/SAE J1995	kW	312
	hp	424
Max torque	Nm	2 070
at engine speed	r/min	1 300
No. of cylinders		6
Displacement	l	12.8
Bore	mm	131
Stroke	mm	158

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.

Voltage	V	24
Batteries	V	2 x 12
Battery capacity	Ah	200
Alternator	V/A	28 V / 180 A

Hybrid

The uncomplicated and reliable hybrid solution, Volvo's novel hydraulic hybrid harvests 'free' energy generated by the down motion of the excavator's boom and uses it to supercharge the engine system.

The powerful and regular boom-down motions charge 32 litre hydraulic accumulators (8.5 gallon), which then deliver energy to drive hydraulic assist motors that help power the engine system. There are the same levels of controllability and performance as the standard EC500F, including the ability to work in ECO mode and Hybrid mode simultaneously.

Accumulator

No. of accumulator	1
Displacement	l 32

Undercarriage and structures

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

Fixed undercarriage

Track shoe	2 x 52
Link pitch	mm 216
Shoe width, triple grouser	mm 600 / 700 / 800 / 900
Shoe width, triple grouser (HD)	mm 600 (HD)
Shoe width, double grouser	mm 600
Bottom rollers	2 x 9
Top rollers	2 x 2

Retractable undercarriage

Track shoe	2 x 52
Link pitch	mm 216
Shoe width, triple grouser	mm 600 / 700 / 800 / 900
Shoe width, triple grouser (HD)	mm 600 (HD)
Shoe width, double grouser	mm 600
Bottom rollers	2 x 9
Top rollers	2 x 3

Swing system

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

Max. slew speed	r/min	9.3
Max. slew torque	kNm	166

Travel System

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

Max. drawbar pull	kN	333
Max. travel speed (low)	km/h	3.1
Max. travel speed (high)	km/h	5.1
Gradeability	°	35

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 9 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

L _p A	dB	71
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External sound level according to ISO 6395 and EU Directive 2000/14/EC

LWA	dB	107
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Service Refill

Fuel tank	l	640
DEF/AdBlue® tank	l	45
Hydraulic system, total	l	480
Hydraulic tank	l	235
Engine oil	l	55
Engine coolant	l	60
Slew reduction unit	l	2 x 8.8
Travel reduction unit	l	2 x 8.0

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: 2 x Variable displacement axial piston pumps

Maximum flow	l/min	2 x 376
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Pilot pump: Gear pump

Maximum flow	l/min	1 x 34
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Max. pressure

Implement	MPa	32.4 / 35.3
Travel circuit	MPa	32.4
Slew circuit	MPa	25.8
Pilot circuit	MPa	3.9

Hydraulic Motors

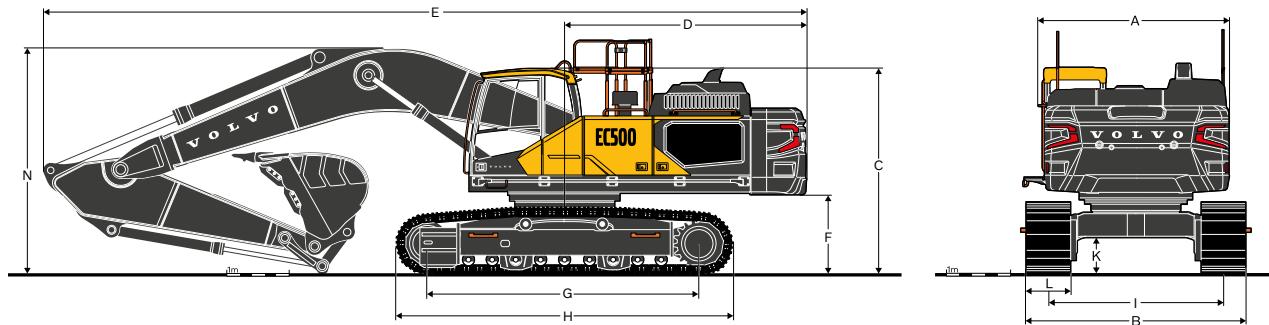
Travel: Variable displacement axial piston motor with mechanical brake

Swing: Fixed displacement piston motor with mechanical brake

Hydraulic Cylinders

Boom		2
Bore x Stroke	ø x mm	165 x 1 590
Arm		1
Bore x Stroke	ø x mm	190 x 1 850
Bucket		1
Bore x Stroke	ø x mm	165 x 1 335
ME Bucket		1
Bore x Stroke	ø x mm	175 x 1 335
Bucket for LR boom		1
Bore x Stroke	ø x mm	140 x 1 140

Specifications



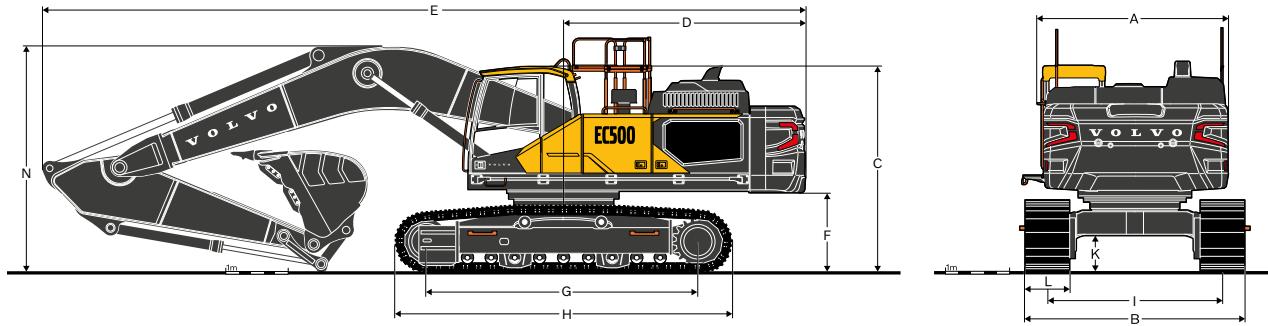
DIMENSIONS

Description	Unit	EC500F Fixed undercarriage						
		6.5 m		7.0 m			7.4 m	
Boom		2.55 m	3.0 m	2.55 m	3.0 m	3.35 m	3.9 m	4.3 m
Arm								
A. Overall width of superstructure								
with walkway, handrail	mm	3 450	3 450	3 450	3 450	3 450	3 450	3 450
without walkway, handrail	mm	2 990	2 990	2 990	2 990	2 990	2 990	2 990
B. Overall width ***								
600 mm shoes	mm	3 340	3 340	3 340	3 340	3 340	3 340	3 340
700 mm shoes	mm	3 440	3 440	3 440	3 440	3 440	3 440	3 440
800 mm shoes	mm	3 540	3 540	3 540	3 540	3 540	3 540	3 540
900 mm shoes	mm	3 640	3 640	3 640	3 640	3 640	3 640	3 640
C. Overall height of								
Cab	mm	3 300	3 300	3 300	3 300	3 300	3 300	3 300
FOG	mm	3 390	3 390	3 390	3 390	3 390	3 390	3 390
Engine hood	mm	3 060	3 060	3 060	3 060	3 060	3 060	3 060
Guardrail, unfolded	mm	3 640	3 640	3 640	3 640	3 640	3 640	3 640
Guardrail, folded	mm	3 160	3 160	3 160	3 160	3 160	3 160	3 160
Handrail, unfolded	mm	3 400	3 400	3 400	3 400	3 400	3 400	3 400
Handrail, folded	mm	3 160	3 160	3 160	3 160	3 160	3 160	3 160
With Boom/Arm/Bucket (with hydraulic hoses)	mm	4 270	4 100	4 270	4 020	3 830	3 910	3 650
With Boom/Arm (with hydraulic hoses)	mm	3 710	3 780	3 690	3 770	3 830	3 910	3 650
With Boom (with hydraulic hoses)	mm	3 170	3 170	3 150	3 150	3 150	3 150	2 940
D. Tail swing radius	mm	3 880	3 880	3 880	3 880	3 880	3 880	3 880
E. Overall length								
With Boom/Arm/Bucket	mm	11 780	11 720	12 280	12 220	12 220	12 220	12 660
With Boom/Arm	mm	11 570	11 670	12 170	12 200	12 220	12 220	12 660
With Boom	mm	10 330	10 330	10 850	10 850	10 850	10 850	11 270
F. Counterweight clearance*	mm	1 210	1 210	1 210	1 210	1 210	1 210	1 210
G. Tumbler length	mm	4 380	4 380	4 380	4 380	4 380	4 380	4 380
H. Track length	mm	5 380	5 380	5 380	5 380	5 380	5 380	5 380
I. Track gauge	mm	2 740	2 740	2 740	2 740	2 740	2 740	2 740
K. Min. ground clearance *	mm	475	475	475	475	475	475	475

* Without shoe grouser

** Exclude walkway, handrail

*** Shoe end to end



DIMENSIONS

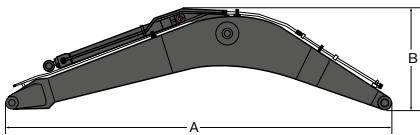
Description	Unit	EC500F Retractable undercarriage						
		6.5 m		7.0 m			7.4 m	
		2.55 m	3.0 m	2.55 m	3.0 m	3.35 m	3.9 m	4.3 m
A. Overall width of superstructure								
with walkway, handrail	mm	3 450	3 450	3 450	3 450	3 450	3 450	3 450
without walkway, handrail	mm	2 990	2 990	2 990	2 990	2 990	2 990	2 990
B. Overall width ***								
Retracted								
600 mm shoes	mm	2 990	2 990	2 990	2 990	2 990	2 990	2 990
700 mm shoes	mm	3 090	3 090	3 090	3 090	3 090	3 090	3 090
800 mm shoes	mm	3 190	3 190	3 190	3 190	3 190	3 190	3 190
900 mm shoes	mm	3 290	3 290	3 290	3 290	3 290	3 290	3 290
Extended								
600 mm shoes	mm	3 490	3 490	3 490	3 490	3 490	3 490	3 490
700 mm shoes	mm	3 590	3 590	3 590	3 590	3 590	3 590	3 590
800 mm shoes	mm	3 690	3 690	3 690	3 690	3 690	3 690	3 690
900 mm shoes	mm	3 790	3 790	3 790	3 790	3 790	3 790	3 790
C. Overall height of								
Cab	mm	3 410	3 410	3 410	3 410	3 410	3 410	3 410
FOG	mm	3 500	3 500	3 500	3 500	3 500	3 500	3 500
Engine hood	mm	3 170	3 170	3 170	3 170	3 170	3 170	3 170
Guardrail, unfolded	mm	3 750	3 750	3 750	3 750	3 750	3 750	3 750
Guardrail, folded	mm	3 270	3 270	3 270	3 270	3 270	3 270	3 270
Handrail, unfolded	mm	3 510	3 510	3 510	3 510	3 510	3 510	3 510
Handrail, folded	mm	3 270	3 270	3 270	3 270	3 270	3 270	3 270
With Boom/Arm/Bucket (with hydraulic hoses)	mm	4 310	4 120	4 220	4 050	3 890	3 910	3 630
With Boom/Arm (with hydraulic hoses)	mm	3 730	3 790	3 720	3 790	3 890	3 910	3 630
With Boom (with hydraulic hoses)	mm	3 220	3 220	3 220	3 220	3 220	3 220	3 000
D. Tail swing radius	mm	3 880	3 880	3 880	3 880	3 880	3 880	3 880
E. Overall length								
With Boom/Arm/Bucket	mm	11 780	11 720	12 280	12 220	12 200	12 200	12 630
With Boom/Arm	mm	11 550	11 630	12 150	12 180	12 200	12 200	12 630
With Boom	mm	10 280	10 280	10 820	10 820	10 820	10 820	11 230
F. Counterweight clearance*	mm	1 320	1 320	1 320	1 320	1 320	1 320	1 320
G. Tumbler length	mm	4 380	4 380	4 380	4 380	4 380	4 380	4 380
H. Track length	mm	5 380	5 380	5 380	5 380	5 380	5 380	5 380
I. Track gauge								
Retracted	mm	2 390	2 390	2 390	2 390	2 390	2 390	2 390
Extended	mm	2 890	2 890	2 890	2 890	2 890	2 890	2 890
K. Min. ground clearance *	mm	710	710	710	710	710	710	710

* Without shoe grouser

** Exclude walkway, handrail

*** Shoe end to end

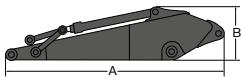
Specifications



BOOM

Description	Unit	6.5 m ME	7.0 m HD	7.4 m GP
Length	mm	6 780	7 280	7 680
Height	mm	1 850	1 760	1 615
Width	mm	906	906	906
Weight*	kg	4 730	4 630	4 740

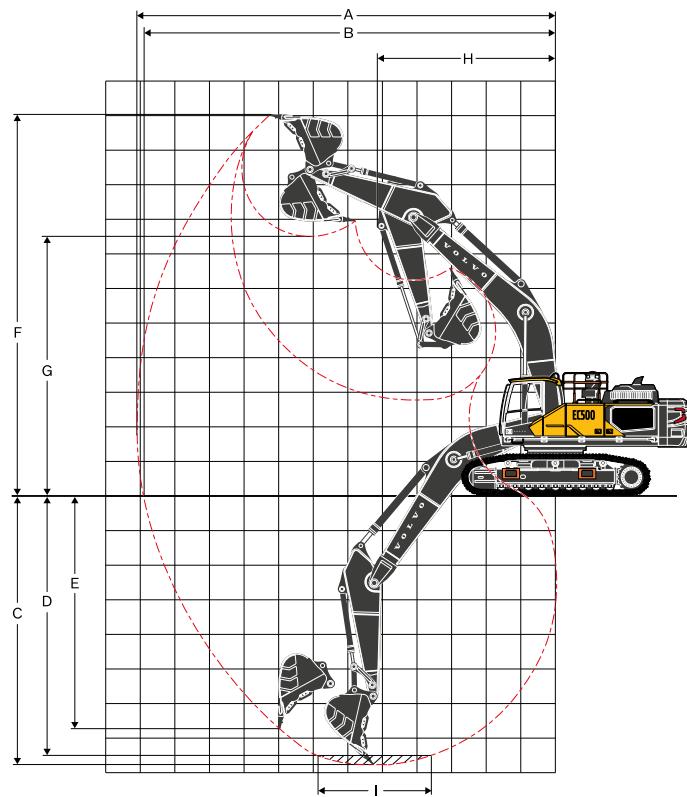
* Includes cylinder, piping and pins



ARM

Description	Unit	2.55 m ME	3.0 m HD	3.35 m HD	3.9 m GP	4.3 m GP
Length	mm	3 750	4 220	4 570	5 120	5 610
Height	mm	1 280	1 280	1 280	1 280	1 260
Width	mm	470	470	470	470	470
Weight*	kg	2 520	2 740	2 730	2 880	3 040

* Includes arm cylinder, piping and pin



WORKING RANGES

Description	Unit	EC500F Fixed undercarriage*						
Boom	m	6.5 ME		7.0 HD			7.4 GP	
Arm	m	2.55	3.0	2.55	3.0	3.35	3.9	4.3
A. Max Digging Reach	mm	10 935	11 295	11 455	11 820	12 145	12 645	13 090
B. Max Digging Reach on the Ground	mm	10 690	11 060	11 220	11 590	11 925	12 435	12 890
C. Max Digging Depth	mm	6 585	7 035	7 030	7 480	7 830	8 380	8 860
D. Max Digging Depth (2.44 m level)	mm	6 420	6 885	6 860	7 325	7 685	8 250	8 725
E. Max Vertical Wall Digging Depth	mm	5 825	6 000	6 270	6 465	6 795	7 235	6 725
F. Max Cutting Height	mm	10 560	10 550	10 915	10 915	11 065	11 235	11 060
G. Max Dumping Height	mm	6 960	7 015	7 310	7 370	7 525	7 710	7 735
H. Min front slew radius	mm	4 815	4 800	5 210	5 170	5 135	5 050	5 130
Description	Unit	EC500F Retractable undercarriage*						
Boom	m	6.5 ME		7.0 HD			7.4 GP	
Arm	m	2.55	3.0	2.55	3.0	3.35	3.9	4.3
A. Max Digging Reach	mm	10 935	11 295	11 455	11 820	12 145	12 645	13 090
B. Max Digging Reach on the Ground	mm	10 690	11 060	11 220	11 590	11 925	12 435	12 890
C. Max Digging Depth	mm	6 585	7 035	7 030	7 480	7 830	8 380	8 860
D. Max Digging Depth (2.44 m level)	mm	6 420	6 885	6 860	7 325	7 685	8 250	8 725
E. Max Vertical Wall Digging Depth	mm	5 825	6 000	6 270	6 465	6 795	7 235	6 725
F. Max Cutting Height	mm	10 560	10 550	10 915	10 915	11 065	11 235	11 060
G. Max Dumping Height	mm	6 960	7 015	7 310	7 370	7 525	7 710	7 735
H. Min front slew radius	mm	4 815	4 800	5 210	5 170	5 135	5 050	5 130

DIGGING FORCES WITH DIRECT FIT BUCKET

	SAE J1179, Normal	kN	249	249	230	230	230	230
Breakout force - bucket	SAE J1179, Power Boost	kN	272	272	251	251	251	251
	ISO 6015, Normal	kN	281	281	261	261	261	261
	ISO 6015, Power Boost	kN	307	307	285	285	285	285
	SAE J1179, Normal	kN	224	206	231	211	197	176
Tearout force - digger arm	SAE J1179, Power Boost	kN	245	224	252	230	214	192
	ISO 6015, Normal	kN	232	211	237	216	201	179
	ISO 6015, Power Boost	kN	253	230	259	235	219	195
Rotation angle, bucket	°		179	179	179	179	179	179

*Machine with pin-on bucket

Specifications

GROUND PRESSURE							
Description	Shoe width	Operating weight	Ground pressure	Overall width	Operating weight	Ground pressure	Overall width
	mm	kg	kPa	mm	kg	kPa	mm
Triple grouser	600	49 800	86.2	3 340	51 070	88.4	3 490
	700	49 910	74.6	3 440	51 180	76.5	3 590
	800	50 300	65.9	3 540	51 570	67.6	3 690
	900	50 810	59.2	3 640	52 070	60.6	3 790
Triple grouser (HD)	600 (HD)	51 310	86.4	3 340	52 580	88.5	3 490
Double grouser	600	49 850	86.2	3 340	51 120	88.4	3 490
		EC500F with FIXED undercarriage, 6.5 m boom, 2.55 m arm, 2 740 kg bucket, 10 250 kg counterweight			EC500F with RETRACTABLE undercarriage, 6.5 m boom, 2.55 m arm, 2 740 kg bucket, 10 250 kg counterweight		
Description	Shoe width	Operating weight	Ground pressure	Overall width	Operating weight	Ground pressure	Overall width
	mm	kg	kPa	mm	kg	kPa	mm
Triple grouser	600	50 020	86.5	3 340	51 290	88.7	3 490
	700	50 130	74.9	3 440	51 400	76.8	3 590
	800	50 520	66.2	3 540	51 790	67.9	3 690
	900	51 030	59.4	3 640	52 290	60.9	3 790
Triple grouser (HD)	600 (HD)	51 530	86.7	3 340	52 800	88.9	3 490
Double grouser	600	50 070	86.6	3 340	51 340	88.8	3 490
		EC500F with FIXED undercarriage, 6.5 m boom, 3.0 m arm, 2 740 kg bucket, 10 250 kg counterweight			EC500F with RETRACTABLE undercarriage, 6.5 m boom, 3.0 m arm, 2 740 kg bucket, 10 250 kg counterweight		
Description	Shoe width	Operating weight	Ground pressure	Overall width	Operating weight	Ground pressure	Overall width
	mm	kg	kPa	mm	kg	kPa	mm
Triple grouser	600	49 670	85.9	3 340	50 940	88.1	3 490
	700	49 780	74.4	3 440	51 050	76.3	3 590
	800	50 170	65.8	3 540	51 440	67.4	3 690
	900	50 680	59.0	3 640	51 940	60.5	3 790
Triple grouser (HD)	600 (HD)	51 180	86.1	3 340	52 450	88.3	3 490
Double grouser	600	49 720	86.0	3 340	50 990	88.2	3 490
		EC500F with FIXED undercarriage, 7.0 m boom, 3.35 m arm, 2 500 kg bucket, 10 250 kg counterweight			EC500F with RETRACTABLE undercarriage, 7.0 m boom, 3.35 m arm, 2 500 kg bucket, 10 250 kg counterweight		

BUCKET SELECTION GUIDE

Bucket type		Capacity	Cutting width	Weight	Teeth	EC500F Fixed undercarriage							
						600 mm shoe, 10 250 kg counterweight							
						6.5 m boom		7.0 m boom				7.4 m boom	
L	mm	kg	EA			2.55 m arm	3.0 m arm	2.55 m arm	3.0 m arm	3.35 m arm	3.9 m arm	4.3 m arm	
Direct fit Buckets	Fixed Ditching	1 540	1 800	1 210	0	C	C	C	C	C	C	C	C
	High Capacity	3 500	1 960	2 490	5	C	C	C	B	B	A	x	
		3 820	2 100	2 490	5	C	B	B	B	A	x	x	
	General Purpose	1 550	1 240	1 870	4	C	C	C	C	C	C	C	C
		2 100	1 540	2 190	5	C	C	C	C	C	C	C	C
		2 380	1 690	2 220	5	C	C	C	C	C	C	C	C
		2 660	1 840	2 500	5	C	C	C	C	C	C	C	B
		2 840	1 940	2 470	5	C	C	C	C	C	B	B	B
		3 310	2 190	2 750	6	C	C	C	B	B	A	x	
	Heavy Duty	2 100	1 540	2 370	5	D	D	D	D	D	D	D	C
		2 380	1 690	2 500	5	D	D	D	D	D	C	B	B
		2 660	1 840	2 670	5	D	D	D	C	C	B	B	B
		2 840	1 940	2 740	5	D	D	D	C	C	B	A	
		3 030	2 020	2 890	5	D	C	C	B	B	A	x	
	Extreme Duty	2 660	1 870	2 810	4	D	D	D	C	C	B	A	A
		2 840	1 970	3 010	4	D	C	C	C	B	B	B	x
		3 030	2 050	3 120	4	D	C	C	B	B	A	x	
	Heavy Duty eXtreme	3 000	2 050	3 560	4	C	C	B	B	A	x	x	x
		3 200	2 140	3 670	4	C	B	B	A	x	x	x	x
	Extreme Duty eXtreme	3 000	2 050	3 880	4	C	B	B	A	x	x	x	x
Bucket type		Capacity	Cutting width	Weight	Teeth	EC500F Retractable undercarriage							
						600 mm shoe, 10 250 kg counterweight							
						6.5 m boom		7.0 m boom				7.4 m boom	
L	mm	kg	EA			2.55 m arm	3.0 m arm	2.55 m arm	3.0 m arm	3.35 m arm	3.9 m arm	4.3 m arm	
Direct fit Buckets	Fixed Ditching	1 540	1 800	1 210	0	C	C	C	C	C	C	C	C
	High Capacity	3 500	1 960	2 490	5	C	C	C	B	B	A		
		3 820	2 100	2 490	5	C	C	C	B	B	A	x	
	General Purpose	1 550	1 240	1 870	4	C	C	C	C	C	C	C	C
		2 100	1 540	2 190	5	C	C	C	C	C	C	C	C
		2 380	1 690	2 220	5	C	C	C	C	C	C	C	C
		2 660	1 840	2 500	5	C	C	C	C	C	C	C	B
		2 840	1 940	2 470	5	C	C	C	C	C	C	C	B
		3 310	2 190	2 750	6	C	C	C	C	B	B	B	A
	Heavy Duty	2 100	1 540	2 370	5	D	D	D	D	D	D	D	D
		2 380	1 690	2 500	5	D	D	D	D	D	D	D	C
		2 660	1 840	2 670	5	D	D	D	D	D	C	B	B
		2 840	1 940	2 740	5	D	D	D	D	C	C	B	B
		3 030	2 020	2 890	5	D	D	D	C	C	B	A	
	Extreme Duty	2 660	1 870	2 810	4	D	D	D	D	D	C	B	B
		2 840	1 970	3 010	4	D	D	D	C	C	B	B	B
		3 030	2 050	3 120	4	D	D	C	C	B	B	B	x
	Heavy Duty eXtreme	3 000	2 050	3 560	4	D	C	C	B	B	A	x	x
		3 200	2 140	3 670	4	C	C	C	B	B	x	x	x
	Extreme Duty eXtreme	3 000	2 050	3 880	4	D	C	C	B	B	x	x	x

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

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

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

Maximum material density

D: 2 100 kg/m³

C: 1 800 kg/m³

B: 1 500 kg/m³

A: 1 200 kg/m³

X: Not recommended

Specifications

LIFTING CAPACITY EC500F FIXED undercarriage

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	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		Max.			
		Along UC	Across UC	m															
Boom 6.5 m Arm 2.55 m Shoe 600 mm Counterweight 10 250 kg	7.5 kg																*11 950	11 720	7.3
	6.0 kg																*11 480	9 610	8.2
	4.5 kg																*11 480	8 530	8.7
	3.0 kg																*11 870	8 000	8.9
	1.5 kg																*12 370	7 870	8.9
	0 kg																*12 680	8 130	8.7
	-1.5 kg																*12 970	8 900	8.1
	-3.0 kg																*13 050	10 590	7.2
	-4.5 kg																		5.8
Boom 6.5 m Arm 3.0 m Shoe 600 mm Counterweight 10 250 kg	7.5 kg																*10 100	*10 100	7.7
	6.0 kg																*9 800	8 920	8.5
	4.5 kg																*9 880	7 970	9.1
	3.0 kg																*10 260	7 480	9.3
	1.5 kg																*11 020	7 350	9.3
	0 kg																*12 000	7 550	9.0
	-1.5 kg																*12 370	8 180	8.5
	-3.0 kg																*12 660	9 560	7.7
	-4.5 kg																*12 500	*12 500	6.3
Boom 7.0 m Arm 2.55 m Shoe 600 mm Counterweight 10 250 kg	9.0 kg																*11 570	*11 570	6.6
	7.5 kg																*11 110	10 230	7.9
	6.0 kg																*11 010	8 610	8.7
	4.5 kg																*11 080	7 730	9.2
	3.0 kg																*11 260	7 290	9.5
	1.5 kg																*11 510	7 180	9.5
	0 kg																*11 800	7 390	9.2
	-1.5 kg																*12 090	8 000	8.7
	-3.0 kg																*12 260	9 300	7.9
	-4.5 kg																*11 950	*11 950	6.6
Boom 7.0 m Arm 3.0 m Shoe 600 mm Counterweight 10 250 kg	9.0 kg																*10 550	*10 550	7.2
	7.5 kg																*10 260	9 420	8.3
	6.0 kg																*10 030	8 010	9.1
	4.5 kg																*10 110	7 230	9.6
	3.0 kg																*10 480	6 830	9.8
	1.5 kg																10 800	6 710	9.8
	0 kg																11 110	6 870	9.6
	-1.5 kg																*11 520	7 380	9.1
	-3.0 kg																*11 820	8 440	8.3
	-4.5 kg																*11 860	10 710	7.1
Boom 7.0 m Arm 3.0 m Shoe 600 mm Counterweight 10 250 kg	9.0 kg																*9 590	*9 590	7.6
	7.5 kg																*9 010	8 830	8.7
	6.0 kg																*8 810	7 600	9.5
	4.5 kg																*8 870	6 900	9.9
	3.0 kg																*9 180	6 530	10.2
	1.5 kg																*9 770	6 420	10.2
	0 kg																10 580	6 550	9.9
	-1.5 kg																*11 100	7 000	9.4
	-3.0 kg																*11 440	7 910	8.7
	-4.5 kg																*11 610	9 770	7.5
Boom 7.0 m Arm 3.9 m Shoe 600 mm Counterweight 10 250 kg	9.0 kg																*7 670	*7 670	8.3
	7.5 kg																*7 250	*7 250	9.3
	6.0 kg																*7 110	7 010	10.0
	4.5 kg																*7 170	6 400	10.4
	3.0 kg																*7 410	6 070	10.7
	1.5 kg																*7 840	5 960	10.7
	0 kg																*8 540	6 060	10.4
	-1.5 kg																*9 660	6 420	10.0
	-3.0 kg																*10 820	7 140	9.3
	-4.5 kg																*11 130	8 560	8.2
	-6.0 kg																*11 070	*11 070	6.7
Boom 7.4 m Arm 4.3 m Shoe 600 mm Counterweight 10 250 kg	9.0 kg																*8 260	*8 260	8.8
	7.5 kg																*8 230	7 330	9.8
	6.0 kg																*8 310	6 420	10.5
	4.5 kg																*8 460	5 860	10.9
	3.0 kg																*8 690	5 540	11.1
	1.5 kg																*9 370	5 900	11.1
	0 kg																*8 840	5 410	11.1
	-1.5 kg																*8 990	5 470	10.9
	-3.0 kg																*9 460	5 730	10.5
	-4.5 kg																*10 470	7 400	8.8
	-6.0 kg																*10 730	9 710	7.4

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 EC500F RETRACTABLE undercarriage

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	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		9.0 m		10.5 m		Max.				
		Along UC	Across UC	m																
Boom	7.5 kg																*11 880	*11 880	7.3	
6.5 m	6.0 kg																*11 450	10 230	8.2	
Arm	4.5 kg																*11 490	9 140	8.7	
2.55 m	3.0 kg																*11 930	8 620	9.0	
Shoe	1.5 kg																*12 400	8 520	8.9	
600 mm	0 kg																*12 700	8 830	8.6	
Counterweight	-1.5 kg																*12 980	9 720	8.1	
10 250 kg	-3.0 kg																*13 040	11 670	7.1	
Boom	7.5 kg																*10 060	*10 060	7.8	
6.5 m	6.0 kg																*9 800	9 510	8.6	
Arm	4.5 kg																*9 900	8 550	9.1	
3.0 m	3.0 kg																*10 310	8 070	9.3	
Shoe	1.5 kg																*11 090	7 960	9.3	
600 mm	0 kg																*12 030	8 210	9.0	
Counterweight	-1.5 kg																*12 400	8 940	8.5	
10 250 kg	-3.0 kg																*12 670	10 510	7.6	
	-4.5 kg																*12 450	*12 450	6.2	
Boom	9.0 kg																*11 510	*11 510	6.8	
7.0 m	7.5 kg																*11 100	10 830	8.0	
Arm	6.0 kg																*11 010	9 180	8.8	
2.55 m	4.5 kg																*11 090	8 300	9.3	
Shoe	3.0 kg																*11 280	7 860	9.5	
600 mm	1.5 kg																*11 530	7 780	9.5	
Counterweight	0 kg																*11 830	8 030	9.2	
10 250 kg	-1.5 kg																*12 110	8 740	8.6	
	-3.0 kg																*12 260	10 210	7.8	
	-4.5 kg																*11 880	*11 880	6.5	
Boom	9.0 kg																*10 510	*10 510	7.3	
7.0 m	7.5 kg																*10 220	9 990	8.4	
Arm	6.0 kg																*10 020	8 560	9.2	
3.0 m	4.5 kg																*10 130	7 770	9.6	
Shoe	3.0 kg																*10 530	7 370	9.8	
600 mm	1.5 kg																*10 860	7 270	9.8	
Counterweight	0 kg																*11 190	7 480	9.6	
10 250 kg	-1.5 kg																*11 540	8 060	9.0	
	-3.0 kg																*11 830	9 270	8.2	
	-4.5 kg																*11 840	*11 840	7.0	
Boom	9.0 kg																*9 530	*9 530	7.7	
7.0 m	7.5 kg																*8 980	*8 980	8.8	
Arm	6.0 kg																*8 810	8 120	9.5	
3.0 m	4.5 kg																*8 890	7 410	10.0	
Shoe	3.0 kg																*9 220	7 050	10.2	
600 mm	1.5 kg																*9 820	6 960	10.1	
Counterweight	0 kg																*10 770	7 130	9.9	
10 250 kg	-1.5 kg																*11 130	7 640	9.4	
	-3.0 kg																*11 460	8 670	8.6	
	-4.5 kg																*11 600	10 810	7.4	
Boom	9.0 kg																*7 620	*7 620	8.4	
7.0 m	7.5 kg																*7 230	*7 230	9.4	
Arm	6.0 kg																*7 110	*7 110	10.0	
3.35 m	4.5 kg																*7 180	6 890	10.5	
Shoe	3.0 kg																*7 430	6 560	10.7	
600 mm	1.5 kg																*7 880	6 470	10.6	
Counterweight	0 kg																*8 610	6 600	10.4	
10 250 kg	-1.5 kg																*9 780	7 010	9.9	
	-3.0 kg																*10 850	7 830	9.2	
	-4.5 kg																*11 140	9 440	8.1	
	-6.0 kg																*11 030	*11 030	6.5	
Boom	9.0 kg																*8 260	*8 260	8.9	
7.0 m	7.5 kg																*8 230	7 810	9.9	
Arm	6.0 kg																*8 320	6 880	10.5	
3.9 m	4.5 kg																*8 480	6 320	10.9	
Shoe	3.0 kg																*9 000	6 590	8 700	6 000
600 mm	1.5 kg																*9 700	6 280	10.4	
Counterweight	0 kg																*9 690	6 280	10.4	
10 250 kg	-1.5 kg	*9 620	*9 620	*13 560	*13 560	*25 110	*21 570	*18 500	*13 990	*14 490	*10 240	*11 850	7 990				*10 850	7 830	9.2	
	-3.0 kg	*15 850	*15 850	*20 800	*20 800	*23 920	*21 710	*18 030	*13 990	*14 170	*10 230	*11 260	8 040				*11 140	9 440	8.1	
	-4.5 kg			*29 530	*29 530	*21 460	*21 460	*16 410	*14 220	*12 670	*10 430						*11 030	*11 030	6.5	
	-6.0 kg					*16 890	*16 890	*12 580	*12 580											
Boom	9.0 kg																*8 220	*8 220		
7.4 m	7.5 kg																*8 230	7 810		
Arm	6.0 kg																*8 320	6 880		
4.3 m	4.5 kg																*8 480	6 320		
Shoe	3.0 kg																*9 000	6 590		
600 mm	1.5 kg																*9 700	6 280		
Counterweight	0 kg																*9 690	6 280		
10 250 kg	-1.5 kg	*12 620	*12 620	*22 470	*20 810	*17 980	*13 470	*14 060	9 850	*11 500	7 670						*10 100	6 930	9.7	
	-3.0 kg	*14 610	*14 610	*18 610	*18 610	*23 250	*20 930	*17 560	*13 460	*13 840	9 810	*11 200	7 660				*10 500	8 170	8.7	
	-4.5 kg			*26 030	*26 030	*21 080	*21 080	*16 220	*13 640	*12 790	9 940						*10 730	*10 730	7.2	

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 AND OPTIONAL EQUIPMENT

• = Standard / o = Optional

Engine

Turbocharged, 4 stroke diesel engine with water cooling, direct injection and charged air cooler that meets EU StageV requirements	•
Dual cooling fan system including electric driven for CAC	•
Cyclone pre-cleaner	•
Fuel shut off valve	•
Engine block heater	o
Coolant heater by diesel	o
Reversible fan drive	o
Tropical cooling	o
Precleaner, oil bath	o
Air filter, High efficiency	o
Delayed engine Shutdown	o
Automatic engine shutdown	o
Water separator with heater	o
Arctic regeneration	o
Regeneration control	o
Oil sampling for engine oil	o

Hybrid

Accumulator, 32 L	•
Boom regeneration valves	•
Assist motor	•
Main pump with PTO	•
Electric / Electronic control system	
Anti-theft with code lock system	•
Alternator, 180 A	•
Automatic idling system	•
Lock Out / Tag Out function on main battery switch	•
Standard light	•
Basic light package	o
Advanced light package	o
Deluxe light package	o
Arm light	o
LH light	o

STANDARD AND OPTIONAL EQUIPMENT

• = Standard / o = Optional

Undercarriage and structures

3-point side access	•
Direct filling DEF(AdBlue) / Sight gauge and splash guard	•
Openable combined muffler hood	•
Handrail & Guardrail, fixed/foldable	•
Inner rail	o
Cabin entrance, fixed/foldable	o
Walk way, fixed/foldable	o
SIPS (Side Impact Protection Structure)	o
HD Side door & hood with screen	o
Without lower structure	o
Lower frame, Retractable	o
Link 600/700/800/900 mm triple grouser shoe	o
Link 600 mm triple grouser shoe HD	o
Link 600 mm doublegrouser shoe	o
Full track guard	o
Track tensioner, sand protect	o
Removable counterweight	o
Counterweight for Long reach	o

Hydraulic system

EH (Electro-Hydraulic) control system	•
New work mode with 10 steps	•
Auto power boost	•
One touch power boost	•
Priority Adjustment	•
Boom down speed control	•
Shock reduction function	•
Joystick, Semi-long / 4 switch / 4 switch & 1 proportional / Simple L8 / L8	o
Hydraulic oil mineral 32 / 46 / 68	o
Longlife hyd oil mineral 32 / 46 / 68	o
Hydraulic oil bio 46	o
Pattern change	o
Boom float function	o
Straight travel pedal	o
Comfort driving control	o
Creep mode	o
Provision, Magnet application	o
Dust suppression system	o
Dedicated drain line	o
Variable X3 P-Q control	o
Hose rupture valve for boom	•
Hose rupture valve for arm	•

STANDARD AND OPTIONAL EQUIPMENT	
• = Standard / o = Optional	
Cab and interior	
Keyless engine start and stop	
8» HD display	•
ROPS certified cab	•
Tilttable left console	•
Digital hour meter	•
Wireless mobile charger with Kinematic sensor package option	•
Various storage space with cool/heated	•
Cleaning air gun	o
1 piece wind shield cab	o
High visibility cab	o
Cabin large mirror, Heated	o
Cabin large mirror	o
Basic / Premium / Deluxe seat	o
Seat belt, 2 inch 2 point / 3 inch 2 point / 3 inch 3 point	o
Climate control-HEPA filter	o
Radio with MP3/USB/Bluetooth	o
Front rain shield	o
Sun screen	o
Lower wiper	o
Sun shield, roof hatch	o
Foot rest, High mount	o
FOG (Falling Object Guard)	o
FOPS (Falling Object Protection Structure)	o
Safety net	o
Digging equipment	
HD 7.0 m boom	•
ME 6.5 m boom / GP 7.4 m boom / Non-Boom	o
HD 3.35 m arm	•
ME 2.55 m arm / HD 3.0 m arm / GP 3.9 m arm / GP 4.3 m arm / Non-Arm	o
STANDARD AND OPTIONAL EQUIPMENT	
• = Standard / o = Optional	
Machine controls	
Kinematic sensor package	•
Volvo Co-Pilot 2nd display, 12.8» touchable Full HD	•
Dig Assist, Start	o
Dig Assist, 2D	o
Dig Assist, In-Field Design	o
Dig Assist, Topcon 3D-MC	o
Dig Assist, Trimble Earthworks	o
Dig Assist, Infield-Design Advanced	o
Dig Assist, On-Board Weighing	o
Dig Assist, Laser Receiver	o
Volvo Active Control	o
Dig Assist, Boundary Limit	o
Safety and security	
Travel alarm, beep / white noise	o
Flashing beacon, LED	o
Green light beacon	o
Rear view camera	•
Side view camera	o
HD VSV(Volvo Smart View)	o
HD VSV with obstacle detection	o
Provision, HD VSV with obstacle detection	o
Service and maintenance	
Fuel level gauge	•
Swing out A/C condenser	•
Fuel filler pump	o
Fast Fuel Fill preparation	o
Quick Hydraulic Oil Fill connection	o
Quick Engine Oil Change	o
Jump start connector	o
Auto lubrication system	o
Tool kit	o

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