Volvo Construction Equipment
Building Tomorrow

EC220D

Volvo Crawler Excavators 20.9 - 24.1 t 167 hp

ECO mode

Volvo's unique ECO mode contributes to up to 5% of the machine's total improved fuel efficiency – without any loss of performance in most operating conditions. The design features electronic pump control technology which reduces flow and pressure losses while maintaining digging power and maximizing swing torque.

New levels of fuel efficiency

Volvo proudly introduces the EC220D and the next generation of fuel efficiency. Thanks to sophisticated technology, this excavator boasts a 10% improvement in fuel efficiency compared to the previous model. With Volvo's unique ECO mode, a new hydraulic system and a premium Volvo D6 diesel engine, you'll soon start to reap the benefits of reduced operational costs. Maximize your fuel efficiency with Volvo.

Volvo D6 engine

Volvo's state-of-the art D6 diesel engine is seamlessly integrated with all excavator systems. The premium, six cylinder engine delivers high performance and low fuel consumption. The D6 is available in two versions to comply with regional emission regulations.

Auto engine shutdown

The optional auto engine shutdown function automatically turns the engine off to reduce fuel consumption when the machine is inactive for a preset amount of time (five minutes is the default setting). The operator is informed one minute before this occurs.

Fuel consumption display

A new gauge bar on the I-ECU measures instantaneous fuel consumption while average fuel consumption is displayed numerically per hour. This allows you to monitor fuel usage on different job sites and applications.

Work modes

Volvo's unique, integrated work mode system now includes the G4 mode for optimum fuel efficiency and machine performance. Operators can choose the best work mode to suit the task at hand – simply select from I (Idle), F (Fine), G (General), H (Heavy) and P (Power max) mode.

Designed for productivity

The new, modern D-series styling of the EC220D cab puts the operator in control facilitating optimal conditions for productivity. With superior visibility, easy to access controls and built in comfort, it's no wonder operators experience less fatigue and feel more productive in this spacious and safe working environment. See more and do more with Volvo.

Climate control system

Operators can set their ideal temperature with Volvo's powerful climate control system which is integrated into the I-ECU. Industry-leading air circulation and defrosting is delivered quickly via 14 well-spaced vents for increased comfort and productivity.

I-ECU monitor

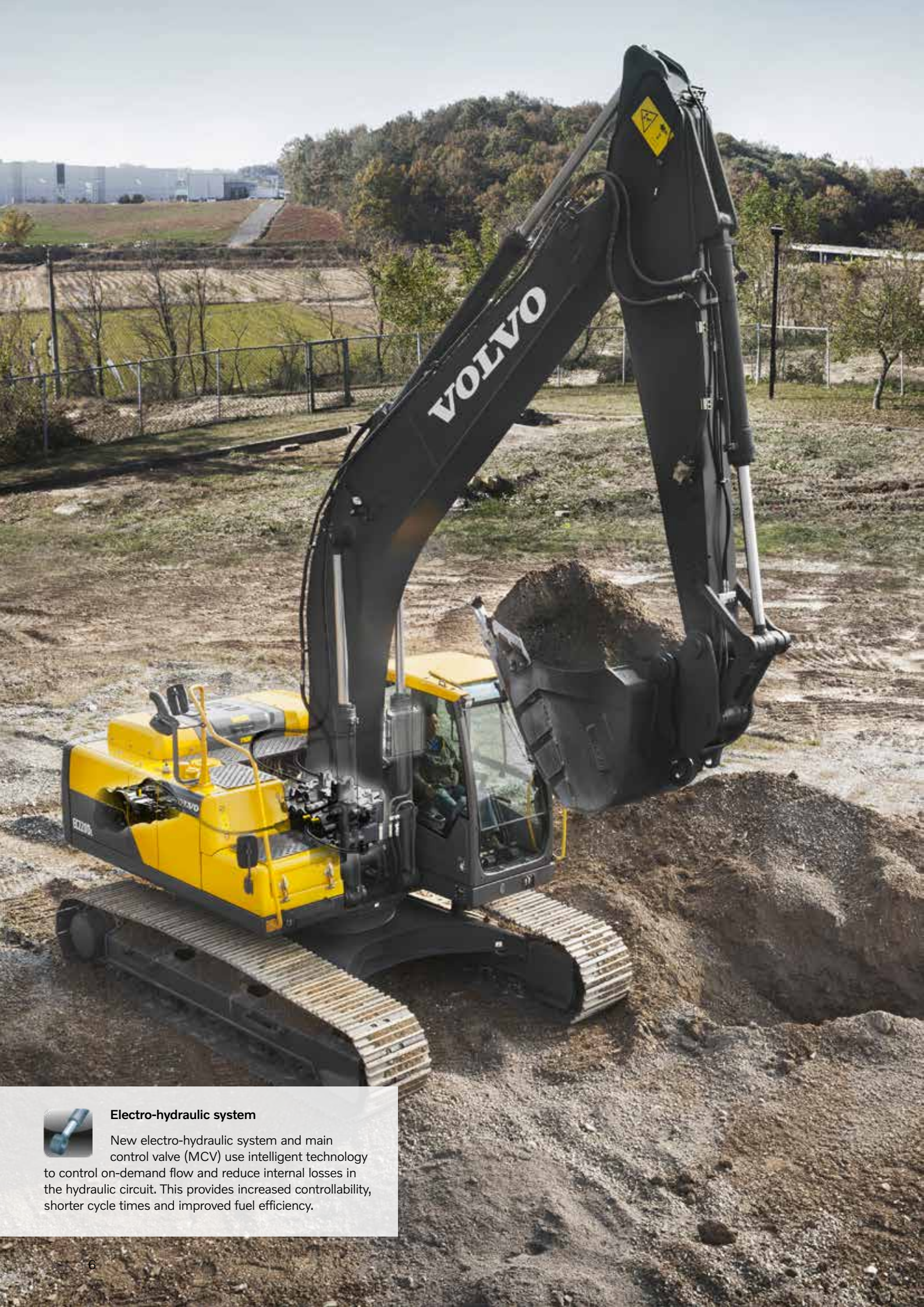
The new, color LCD monitor displays machine status information including fuel consumption details and service interval alerts. The large, anti-glare, tiltable screen and conveniently placed navigation controls facilitate easy operation and high productivity.

ROPS

Volvo recommends an optional Roll Over Protective Structure (ROPS) certified cab when working in challenging applications. This provides increased operator safety in the unlikely event of machine roll over.

Cab

All-around visibility and an excellent operator environment are at the center of Volvo's cab design. The EC220D features new Volvo styling. The spacious and safe environment has been built strong and includes slim cab pillars, large expanses of glass, an adjustable seat and easy to access controls for reduced fatigue and increased productivity.



Electro-hydraulic system

New electro-hydraulic system and main control valve (MCV) use intelligent technology to control on-demand flow and reduce internal losses in the hydraulic circuit. This provides increased controllability, shorter cycle times and improved fuel efficiency.

Premium performance

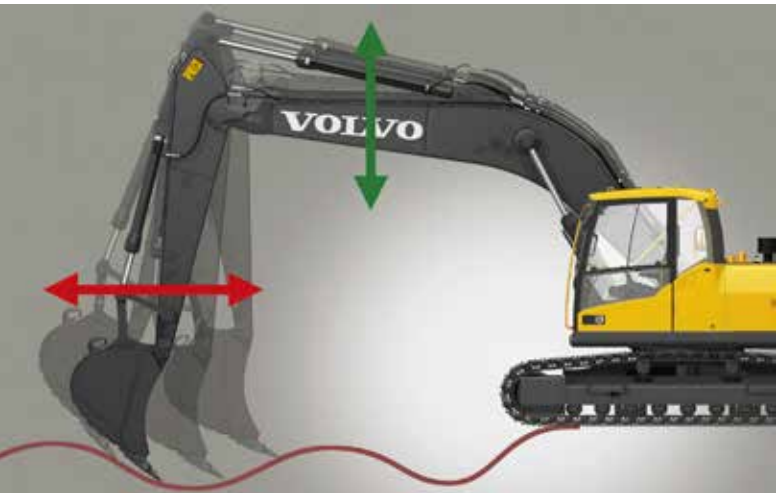
Featuring a new electro-hydraulic system, the EC220D provides you with the power, controllability and versatility you need, when you need it. Whether you're working in the road construction, quarry, trenching or any other application, this machine will surpass your expectations.

Improved controllability

Grading and combined operations are improved thanks to Volvo's smart hydraulic system which increases controllability. Benefit from smoother and easier movement when traveling and lifting simultaneously as well as better grading quality from the harmonized boom and arm movement..

Attachment Management System

The Attachment Management System (AMS) - controlled through the I-ECU - stores settings for up to 20 hydraulic attachments. The system can store flow, maximum pressure, single or double acting circuit, on/off or proportional control – increasing versatility and convenience.



Boom float option

Enables the boom to 'float' over the ground without pressure in the boom cylinders. Pump power is not used to lower the boom so there is more power available for other functions – like faster cycle times. The boom float provides easy controllability in grading and eliminates excessive shock when using a breaker.

Pressure preset

For ease of use, this system allows the operator to set the pressure through the I-ECU monitor. The settings can be stored in the Attachment Management System (AMS).

User-friendly service access

Access greater uptime and spend longer working on the jobsite with the EC220D. With safe and easy access to centralized filters and grouped greasing points, you'll spend less time maintaining your machine and more time earning money with Volvo.

Cooling system

The radiator, charged air cooler and hydraulic oil cooler are situated side-by-side on a single layer to maximize efficiency, reduce blockages and aid cleaning. The system is easily accessed for maintenance by simply opening the side door from ground level.

Extra water separator

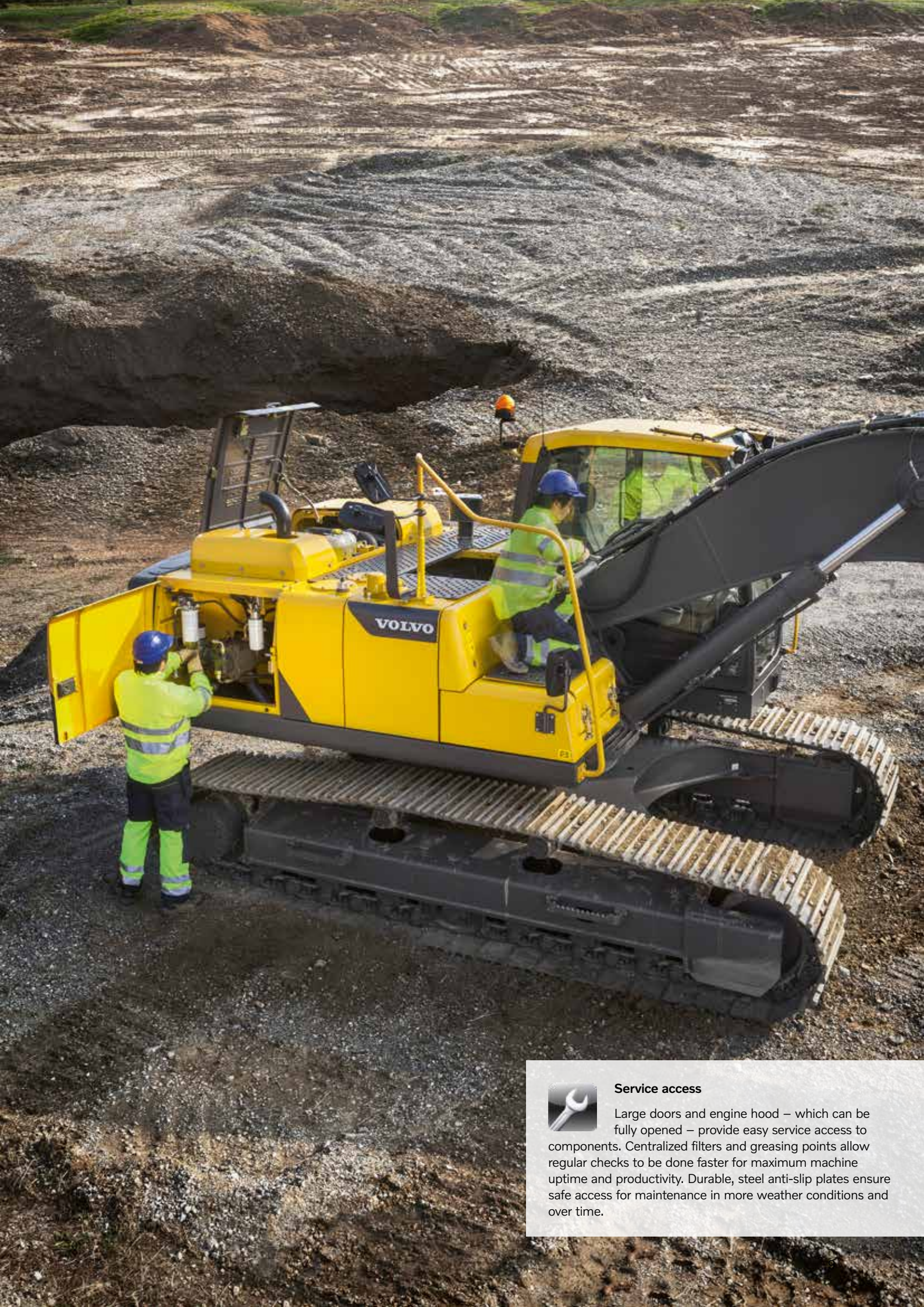
An additional water separator is available to further prevent water from entering the engine and impurities from contaminating the fuel. This feature provides increased water separation and filtration capacity for extra durability and reliability.

Electrical Distribution Box

The fully-sealed Electrical Distribution Box contains all fuses and relays – inside the box cover these are identified on a map. The Volvo design protects against dirt and moisture for more machine uptime. It is accessible from ground level for easy service access.

Toolbox

Tools and a grease can are stored inside a spacious, well-designed toolbox for easy service access and more machine uptime.



Service access

Large doors and engine hood – which can be fully opened – provide easy service access to components. Centralized filters and greasing points allow regular checks to be done faster for maximum machine uptime and productivity. Durable, steel anti-slip plates ensure safe access for maintenance in more weather conditions and over time.

Adding value to your business

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

Complete Solutions

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

Genuine Volvo Parts

Our attention to detail is what makes us stand out. This proven concept acts as a solid investment in your machine's future. Parts are extensively tested and approved because every part is vital for uptime and performance. Only by using Genuine Volvo Parts, can you be sure that your machine retains the renowned Volvo quality.

Service Network

In order to respond to your needs faster, a Volvo expert is on their way to your job site from one of our Volvo facilities. With our extensive infrastructure of technicians, workshops and dealers, Volvo has a comprehensive network to fully support you using local knowledge and global experience.

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.

A quality new design

Engine D6

Premium Volvo D6 diesel engine built with proven, advanced technology for high performance and low fuel consumption.

New I-ECU

The large, color LCD monitor clearly displays machine status information for easy operation and increased productivity.

ECO mode

Volvo's unique ECO mode contributes to up to 5% of the machine's total improved fuel efficiency without any loss of performance.

Cab design

All-around visibility, safety, comfort and easy to access controls are at the center of Volvo's operator environment.

Service access

Large doors and engine hood provide easy service access. Centralized filters and greasing points allow regular checks to be done faster.

Boom float

This option enables the boom to 'float' over the ground for easy controllability in grading and breaker operations.

Boom and arm

Proven Volvo design and manufacturing process, incorporating high strength tensile steel, provides maximum durability and uptime.

New D-series styling

The EC220D boasts new, modern D-series styling consistent with Volvo's product family.

Electro-hydraulic system

New electro-hydraulic system and MCV use intelligent technology to control on-demand flow for improved performance and efficiency.

New work modes

Volvo's unique work mode system now includes the G4 mode for optimum fuel efficiency and performance.

Customer solutions

Volvo provides the right solutions throughout the entire life cycle of your machine to lower total cost of ownership.

Oil cooler

Unique oil cooler is separated from the engine and radiator for superior cooling capacity, easier cleaning and servicing.

I-ECU monitor

Large color monitor provides excellent clarity in all light conditions and allows for quick visual and diagnostic checks.

Get the most from your excavator

Maximize your excavator's productivity and profitability with Volvo's comprehensive range of attachments – designed to work in perfect harmony with Volvo machines. Access more applications and effectively perform a variety of tasks while experiencing reduced fuel consumption and reduced cycle times.

Volvo buckets

Volvo offers a range of high quality buckets designed to perform in a variety of materials. Featuring exceptional design and built in durability, Volvo buckets efficiently handle the toughest of jobs.

INTERFACES

S1 and S2 quick couplers

Volvo's dedicated quick couplers are the ideal choice when you need high performance as well as the ability to easily switch between various attachments – including a tiltrotator. The lightweight design features a low build height and a tight fit to the attachment.

Universal quick coupler

For ultimate flexibility, the universal quick coupler picks up a wide range of both Volvo and other brand attachments. The coupler can be used with buckets in both the face shovel and backhoe position.

Direct fit

For maximum productivity when only operating in one application, Volvo's direct fit attachments provide the best performance and shortest tip radius.

BUCKETS & GROUND ENGAGING TOOLS

General purpose bucket

The perfect tool for digging and re-handling soft to medium material such as dirt, sand and loose clay soils.

Heavy-duty bucket

This bucket excels at digging compact materials including loose rock, hard clay and gravel. It can be used in applications such as quarrying or mining.

Volvo Tooth System

Volvo's robust range of teeth and adapters are designed to cover all applications.

Fixed ditching bucket

Ideal for ditch cleaning, grading, contouring, landscaping, backfilling and removing soft materials.

Tiltable ditching bucket

This bucket can be tilted 45o to each side making it ideal for use on slopes. It can be used for ditch cleaning, grading, contouring, landscaping, backfilling and removing soft materials.

Wear parts

For increased durability, Volvo provides segments, side shrouds, bottom shrouds, teeth, side cutters and bolt-on edges.

HYDRAULIC BREAKERS

Breaker package

The all-in-one hydraulic breaker package includes everything you need to start using your breaker. Depending on the machine, it contains a breaker, hydraulic hoses, a breaker bracket and tool.

Breaker Tools

Volvo hydraulic breakers can be used in a variety of applications. To ensure optimum performance in your application select the right breaker tool from the range.

Volvo EC220D in detail

Engine		
The engine, which provides excellent performance, is equipped with six cylinder, vertical, electronic-controlled high pressure fuel injectors, internal EGR (for certain regions), 6 liter in-line waste gate turbo charger, air-to-air intercooler and water cooled diesel engine type.		
Engine	Volvo	D6
Max power at	r/s / r/min	30 / 1 800
Net (ISO 9249/SAEJ1349)	kW / hp	115 / 156
Gross (ISO 14396/SAE J1995)	kW / hp	123 / 167
Max torque at	Nm / r/min	730 / 1 350
No. of cylinders		6
Displacement	l	5.7
Bore	mm	98
Stroke	mm	126

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. Advanced monitoring of machine functions and important diagnostic information is displayed on the I-ECU.		
Voltage	V	24
Battery capacity	V / Ah	2 x 12 / 150
Alternator	V / Ah	28 / 80
Start motor	V / kW	24 / 5.5

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	12.1
Max. slew torque	kNm	76.7

Drive		
Each track is powered by an automatic two-speed shift travel motor. The track brakes are multi-disc, spring-applied and hydraulic released. The travel motor, brake and planetary gears are well protected within the track frame.		
Max. travel speed (low / high)	km/h	3.5 / 5.7
Max. drawbar pull	kN	183
Gradeability	°	35

Undercarriage		
The undercarriage has a robust X-shaped frame. Greased and sealed track chains are standard.		
		EC220D
Track shoes		2 x 46
Link pitch	mm	190
Shoe width, triple grouser	mm	600/700/800/900
Shoe width, triple grouser (HD)	mm	600
Shoe width, double grouser	mm	-
Bottom rollers		2 x 7
Top rollers		2 x 2
		EC220DL
Track shoes		2 x 49
Link pitch	mm	190
Shoe width, triple grouser	mm	500/600/700/800/900
Shoe width, triple grouser (HD)	mm	600
Shoe width, double grouser	mm	700
Bottom rollers		2 x 8
Top rollers		2 x 2
		EC220DLR
Track shoes		2 x 49
Link pitch	mm	190
Shoe width, triple grouser	mm	800/900
Shoe width, triple grouser (HD)	mm	-
Shoe width, double grouser	mm	-
Bottom rollers		2 x 8
Top rollers		2 x 2

Hydraulic system		
The hydraulic system, also known as the “Automatic Sensing Work Mode”, is designed for high-productivity, high-digging capacity, high maneuvering precision and excellent fuel economy. The summation system, boom, arm and swing priority along with boom and arm regeneration provides optimum performance. The following important functions are included in the system: Summation system: Combines the flow of both hydraulic pumps to ensure quick cycle times and high productivity. Boom priority: Gives priority to the boom operation for faster raising when loading or performing deep excavations. Arm priority: Gives priority to the arm operation for faster cycle times in leveling and for increased bucket filling when digging. Swing priority: Gives priority to swing functions for faster simultaneous operations. Regeneration system: Prevents cavitation and provides flow to other movements during simultaneous operations for maximum productivity. Power boost: All digging and lifting forces are increased. Holding valves: Boom and arm holding valves prevent the digging equipment from creeping.		
Main pump, Type 2 x variable displacement axial piston pumps		
Maximum flow	l/min	2 x 207
Pilot pump, Type Gear pump		
Maximum flow	l/min	1 x 18
Relief valve setting		
Implement	MPa	34.3 / 36.3
Travel circuit	MPa	34.3
Slew circuit	MPa	27.9
Pilot circuit	MPa	3.9

Hydraulic cylinders		
Mono boom		2
Bore x Stroke	ø x mm	125 x 1 235
Arm		1
Bore x Stroke	ø x mm	135 x 1540
Bucket		1
Bore x Stroke	ø x mm	120 x 1065
LR Bucket		1
Bore x Stroke	ø x mm	100 x 865

Service refill capacities		
Fuel tank	l	375
Hydraulic system. total	l	295
Hydraulic tank	l	140
Engine oil	l	25
Engine coolant	l	32
Swing reduction unit	l	8.6
Travel reduction unit	l	2 x 5.8

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 automaticallycontrolled fan. The air is distributed throughout the cab from 14 vents. Ergonomic operator’s seat: The adjustable seat and joystick console move independently to accommodate the operator. The seat has 12 different adjustments plus a seat belt for the operator’s comfort and safety.

Sound Level		
Sound level in cab according to ISO 6396		
L_{pA}	dB	70
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
L_{WA}	dB	103

Specifications

BUCKET SELECTION GUIDE

Bucket type		Capacity	Cutting width	Tip radius	Weight	Teeth	EC220D				EC220DL			
							5.7 m Boom							
							600 mm shoe, 4 200 kg counterweight							
		L	mm	mm	kg	EA	2.0 m	2.5 m	2.9 m	3.5 m	2.0 m	2.5 m	2.9 m	3.5 m
Direct fit buckets	General purpose	480	600	1 532	628	3	C	C	C	C	C	C	C	C
		920	1 050	1 532	824	4	C	C	C	C	C	C	C	C
		970	1 100	1 532	847	4	C	C	C	C	C	C	C	C
		1 090	1 200	1 532	913	5	C	C	C	B	C	C	C	C
		1 270	1 350	1 532	1 000	5	C	B	B	A	C	C	C	B
		1 440	1 500	1 532	1 089	6	B	B	A	X	C	B	B	A
	Heavy duty	920	1 050	1 532	878	4	D	D	D	D	D	D	D	D
		1 090	1 200	1 532	973	5	D	D	C	B	D	D	D	C
		1 270	1 350	1 532	1 049	5	C	B	B	A	D	D	C	B

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 materal density

A 1 200 ~ 1 300 kg/m³ Coal, Caliche, Shale
B 1 400 ~ 1 600 kg/m³ Wet earth and clay, Limestone, Sandstone
C 1 700 ~ 1 800 kg/m³ Granite, Wet sand, Well blasted rock
D 1 900 kg/m³ ~ Wet mud, Iron ore
X Not recommended

MACHINE WEIGHTS AND GROUND PRESSURE

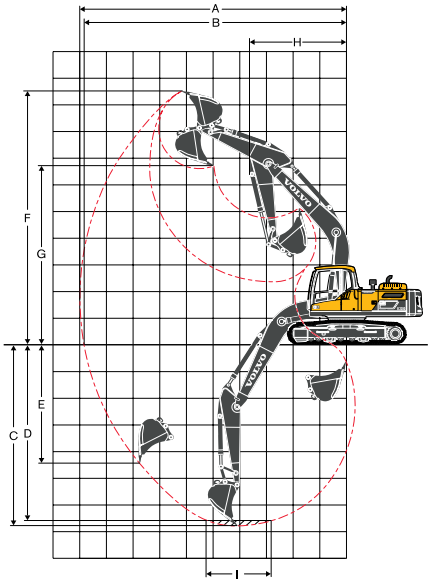
EC220D	5.7 m boom 2.9 m arm 770 kg (920 L) bucket 3 700 kg counterweight				5.7 m boom 2.9 m arm 770 kg (920 L) bucket 4 200 kg counterweight			
Description	Shoe width	Operating weight	Ground pressure	Overall width	Shoe width	Operating weight	Ground pressure	Overall width
	mm	kg	kPa	mm	mm	kg	kPa	mm
Triple grouser	600	21 000	47.9	2 800	600	21 500	49.0	2 800
	HD 600	21 160	48.3	2 800	HD 600	21 660	49.4	2 800
	700	21 430	42.0	2 900	700	21 930	42.9	2 900
	800	21 700	37.1	3 000	800	22 200	38.0	3 000
	900	21 980	33.4	3 100	900	22 480	34.2	3 100

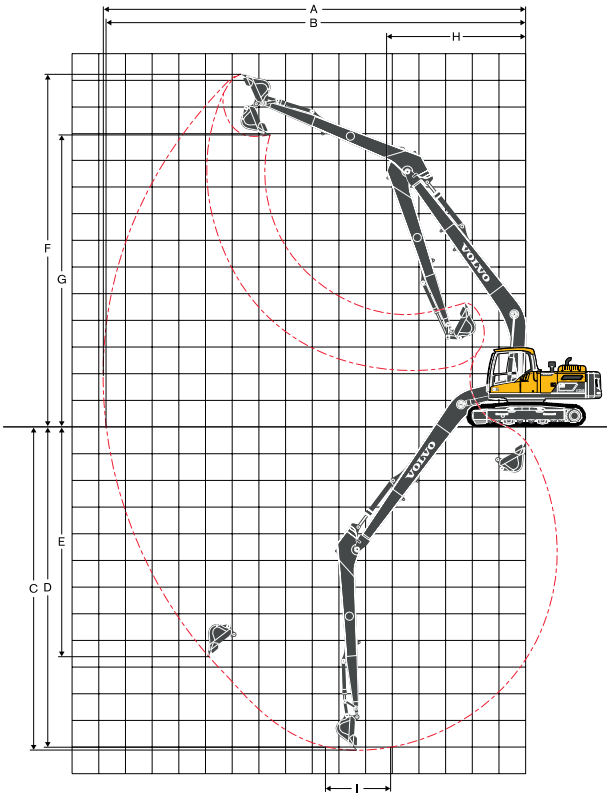
EC220DL	5.7 m boom 2.9 m arm 890 kg (920 L) bucket 3 700 kg counterweight				5.7 m boom 2.9 m arm 890 kg (920 L) bucket 4 200 kg counterweight			
Description	Shoe width	Operating weight	Ground pressure	Overall width	Shoe width	Operating weight	Ground pressure	Overall width
	mm	kg	kPa	mm	mm	kg	kPa	mm
Triple grouser	500	21 130	53.6	2 890	500	21 630	54.5	2 890
	600	21 390	45.2	2 990	600	21 890	46.3	2 990
	HD 600	21 650	45.8	2 990	HD 600	22 150	47.0	2 990
	700	21 940	39.7	3 090	700	22 440	40.6	3 090
	800	22 220	35.2	3 190	800	22 720	36.0	3 190
	900	22 520	31.7	3 290	900	23 020	32.4	3 290
Double grouser	700	22 220	40.3	3 090	700	22 720	41.2	3 090

EC220DLR	8.85 m boom 6.25 m arm 890 kg (920 L) bucket 3 700 kg counterweight			
Description	Shoe width	Operating weight	Ground pressure	Overall width
	mm	kg	kPa	mm
Triple grouser	800	23 710	37.6	3 190
	900	23 990	33.8	3 290

Specifications

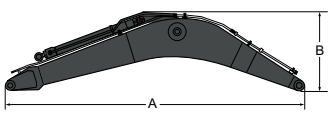
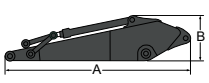
WORKING RANGES





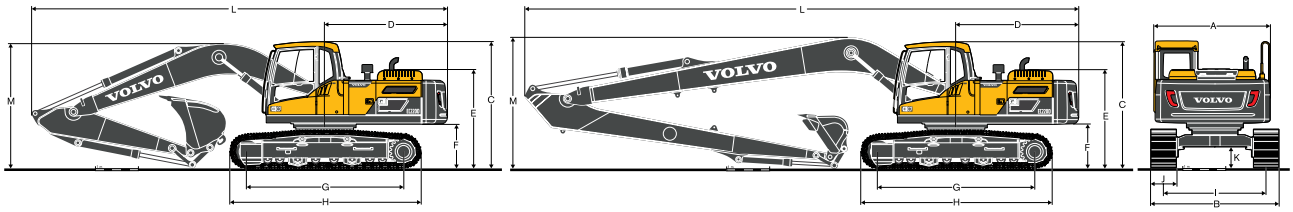
Description			EC220D and EC220DL				EC220DLR
Boom		m	5.7				8.85
Arm		m	2.0	2.5	2.9	3.5	6.25
A. Max. digging reach		mm	9 090	9 550	930	10 390	15 800
B. Max. digging reach on ground		mm	8 910	9 380	9 770	10 240	15 700
C. Max. digging depth		mm	5 830	6 330	6 730	7 330	12 100
D. Max. digging depth (I. 2.44 m level)		mm	5 560	6 100	6 540	7 130	12 000
E. Max. vertical wall digging depth		mm	4 880	5 620	6 090	6 470	11 290
F. Max. cutting height		mm	8 940	9 220	9 460	9 460	13 300
G. Max. dumping height		mm	6 190	6 430	6 650	6 700	10 950
H. Min. front swing radius		mm	3 790	3 670	3 640	3 660	5 200
Digging forces with direct fit bucket							
Bucket radius		mm	1 470	1 470	1 470	1 470	1 250
Breakout force – bucket	Normal SAE J1179	kN	151	130	130	130	68
	Power boost SAE J1179	kN	160	137	137	137	-
	Normal ISO 6015	kN	168	145	145	145	77
	Power boost ISO 6015	kN	178	153	153	153	-
Tearout force – dipper arm	Normal SAE J1179	kN	146	119	102	93	44
	Power boost SAE J1179	kN	155	125	108	98	-
	Normal ISO 6015	kN	150	122	105	95	45
	Power boost ISO 6015	kN	159	129	111	100	-
Rotation angle, bucket		°	175	175	175	175	178

DIMENSIONS

EC220D	Boom			Arm					
									
Description m	5.7	HD 5.7	Long reach 8.85	2.0	2.5	2.9	HD 2.9	3.5	Long reach 6.25
A. Length mm	5 910	5 910	9 060	3 065	3 525	3 910	3 910	4 540	7 330
B. Height mm	1 585	1 585	1 460	980	860	860	860	855	945
Width mm	670	670	670	440	440	440	440	440	385
Weight kg	1 995	2 135	2 510	1 091	1 129	1 121	1 176	1 226	1 309

Boom includes cylinder, piping and pin, excludes boom cylinder pin | Arm includes cylinder, linkage and pin

DIMENSIONS



Description		EC220D				EC220DL				EC220DLR
Boom	m	5.7				5.7				8.85
Arm	m	2.0	2.5	2.9	3.5	2.0	2.5	2.9	3.5	6.25
A Overall width of upper structure	mm	2 700	2 700	2 700	2 700	2 700	2 700	2 700	2 700	2 700
B Overall width	mm	2 800	2 800	2 800	2 800	2 990	2 990	2 990	2 990	3 190
C Overall height of cab	mm	2 930	2 930	2 930	2 930	2 930	2 930	2 930	2 930	2 930
D Tail slew radius	mm	2 850	2 850	2 850	2 850	2 850	2 850	2 850	2 850	2 850
E Overall height of engine hood	mm	2 315	2 315	2 315	2 315	2 315	2 315	2 315	2 315	2 315
F Counterweight clearance *	mm	1 025	1 025	1 025	1 025	1 025	1 025	1 025	1 025	1 050
G Tumbler length	mm	3 370 3	370	3 370	3 370	3 660	3 660	3 660	3 660	3 660
H Track length	mm	4 160	4 160	4 160	4 160	4 460	4 460	4 460	4 460	4 460
I Track gauge	mm	2 200	2 200	2 200	2 200	2 390	2 390	2 390	2 390	2 390
J Shoe width	mm	600	600	600	600	600	600	600	600	800
K Minimum ground clearance *	mm	460	460	460	460	460	460	460	460	460
L Overall length	mm	9 795	9 745	9 690	9 720	9 795	9 745	9 690	9 720	12 880
M Overall height of boom	mm	3 100	3 080	2 940	3 260	3 100	3 080	2 940	3 260	3 055

* Without shoe grouser

LIFTING CAPACITY EC220D

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 point		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	mm
	7.5 m	kg											*6 280	6 230	4 933
	6.0 m	kg							*6 030	4 490			*6 080	4 120	6 305
Boom 5.7 m	4.5 m	kg					*7 680	6 770	*6 430	4 350			5 100	3 310	7 102
Arm 2.0 m	3.0 m	kg					*9 670	6 190	6 470	4 120	4 580	2 940	4 560	2 930	7 516
Shoe 600 mm	1.5 m	kg							6 230	3 910	4 490	2 860	4 390	2 800	7 611
CWT 3700 kg	0 m	kg					9 510	5 640	6 100	3 790			4 530	2 870	7 399
	-1.5 m	kg					9 530	5 670	6 090	3 780			5 050	3 190	6 852
	-3.0 m	kg			*13 360	11 220	9 710	5 810					6 440	4 030	5 872
	7.5 m	kg											*5 650	5 110	5 627
	6.0 m	kg							*5 480	4 610			5 560	3 650	6 857
Boom 5.7 m	4.5 m	kg					*6 970	6 950	*5 990	4 440	4 730	3 080	4 630	3 010	7 596
Arm 2.5 m	3.0 m	kg					*8 970	6 360	6 550	4 190	4 630	2 990	4 190	2 700	7 983
Shoe 600 mm	1.5 m	kg					9 770	5 870	6 280	3 950	4 510	2 880	4 040	2 580	8 073
CWT 3700 kg	0 m	kg					9 510	5 640	6 110	3 800	4 430	2 800	4 140	2 620	7 874
	-1.5 m	kg			*10 860	10 790	9 470	5 610	6 050	3 750			4 540	2 870	7 362
	-3.0 m	kg			*14 650	11 000	9 600	5 720	6 140	3 830			5 540	3 480	6 463
	-4.5 m	kg			*11 300	*11 300	*8 070	6 010					*7 100	5 250	4 961
	7.5 m	kg							*5 130	4 670			*4 910	4 430	6 174
	6.0 m	kg							*5 030	4 670			*4 570	3 290	7 311
Boom 5.7 m	4.5 m	kg							*5 600	4 490	4 770	3 110	4 260	2 760	8 006
Arm 2.9 m	3.0 m	kg					*8 350	6 470	*6 510	4 230	4 640	3 000	3 890	2 490	8 375
Shoe 600 mm	1.5 m	kg					9 850	5 920	6 300	3 970	4 500	2 870	3 750	2 380	8 460
CWT 3700 kg	0 m	kg			*5 420	*5 420	9 500	5 630	6 090	3 780	4 400	2 770	3 830	2 410	8 270
	-1.5 m	kg	*6 260	*6 260	*10 320	*10 320	9 410	5 550	6 010	3 700	4 370	2 740	4 150	2 610	7 786
	-3.0 m	kg	*11 380	*11 380	*15 460	10 810	9 490	5 620	6 050	3 740			4 930	3 100	6 943
	-4.5 m	kg	*		12 560	11 210	*8 920	5 850					*6 820	4 350	5 577

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.

Specifications

LIFTING CAPACITY EC220DL

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 point		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	mm
Boom 5.7 m Arm 2.0 m Shoe 600 mm CWT 3700 kg	7.5 m	kg											*6 280	*6 280	4 933
	6.0 m	kg							*6 030	4 980			*6 080	4 570	6 305
	4.5 m	kg					*7 680	7 550	*6 430	4 840			5 770	3 680	7 102
	3.0 m	kg					*9 670	6 950	*7 240	4 600	5 190	3 290	5 170	3 280	7 516
	1.5 m	kg							7 120	4 390	5 090	3 210	4 980	3 140	7 611
	0 m	kg					11 060	6 400	6 980	4 270			5 140	3 220	7 399
	-1.5 m	kg					11 090	6 420	6 970	4 260			5 750	3 580	6 852
	-3.0 m	kg			*13 360	12 940	*9 930	6 570					7 360	4 530	5 872
Boom 5.7 m Arm 2.5 m Shoe 600 mm CWT 3700 kg	7.5 m	kg											*5 650	*5 650	5 627
	6.0 m	kg							*5 480	5 100			*5 570	4 050	6 857
	4.5 m	kg					*6 970	*6 970	*5 990	4 930	5 340	3 430	5 230	3 350	7 596
	3.0 m	kg					*8 970	7 130	*6 870	4 680	5 240	3 330	4 740	3 010	7 983
	1.5 m	kg					*10 710	6 620	7 170	4 430	5 120	3 220	4 580	2 890	8 073
	0 m	kg					11 070	6 400	6 990	4 270	5 030	3 150	4 700	2 940	7 874
	-1.5 m	kg			*10 860	*10 860	11 030	6 370	6 930	4 230			5 160	3 220	7 362
	-3.0 m	kg			*14 650	12 710	*10 490	6 470	7 020	4 300			6 310	3 910	6 463
	-4.5 m	kg			*11 300	*11 300	*8 070	6 770					*7 100	5 900	4 961
Boom 5.7 m Arm 2.9 m Shoe 600 mm CWT 3700 kg	7.5 m	kg							*5 130	*5 130			*4 910	4 900	6 174
	6.0 m	kg							*5 030	*5 030			*4 570	3 660	7 311
	4.5 m	kg							*5 600	4 980	*5 290	3 460	*4 510	3 080	8 006
	3.0 m	kg					*8 350	7 250	*6 510	4 710	5 250	3 340	4 400	2 790	8 375
	1.5 m	kg					*10 250	6 690	7 190	4 450	5 110	3 220	4 250	2 680	8 460
	0 m	kg			*5 420	*5 420	11 060	6 380	6 980	4 260	5 010	3 120	4 350	2 720	8 270
	-1.5 m	kg	*6 260	*6 260	*10 320	*10 320	10 970	6 300	6 890	4 180	4 970	3 090	4 720	2 940	7 786
	-3.0 m	kg	*11 380	*11 380	*15 460	12 510	*10 790	6 370	6 930	4 220			5 620	3 490	6 943
	-4.5 m	kg			*12 560	*12 560	*8 920	6 610					*6 820	4 890	5 577
Boom 5.7 m Arm 3.5 m Shoe 600 mm CWT 3700 kg	7.5 m	kg											*4 270	*4 270	6 792
	6.0 m	kg									*4 620	3 610	*4 060	3 330	7 837
	4.5 m	kg							*5 030	*5 030	*4 830	3 540	*4 050	2 850	8 488
	3.0 m	kg			*11 320	*11 320	*7 440	*7 440	*6 000	4 820	*5 300	3 410	4 080	2 590	8 836
	1.5 m	kg					*9 530	6 860	*7 060	4 520	5 160	3 250	3 950	2 490	8 917
	0 m	kg			*7 100	*7 100	*10 930	6 450	7 020	4 290	5 020	3 130	4 010	2 510	8 738
	-1.5 m	kg	*6 270	*6 270	*10 380	*10 380	10 950	6 290	6 880	4 170	4 950	3 060	4 300	2 680	8 281
	-3.0 m	kg	*10 200	*10 200	*15 300	12 310	10 960	6 300	6 870	4 160			4 980	3 090	7 496
	-4.5 m	kg	*15 240	*15 240	*14 190	12 660	*9 870	6 460	7 010	4 290			6 600	4 060	6 255
Boom 5.7 m Arm 2.0 m Shoe 600 mm CWT 4200 kg	7.5 m	kg											*6 280	*6 280	4 933
	6.0 m	kg							*6 030	5 280			*6 080	4 850	6 305
	4.5 m	kg					*7 680	*7 680	*6 430	5 140			6 070	3 930	7 102
	3.0 m	kg					*9 670	7 390	*7 240	4 910	5 470	3 520	5 460	3 510	7 516
	1.5 m	kg							7 510	4 690	5 380	3 430	5 270	3 360	7 611
	0 m	kg					*11 580	6 840	7 370	4 570			5 430	3 450	7 399
	-1.5 m	kg					*11 190	6 860	7 360	4 560			6 080	3 840	6 852
	-3.0 m	kg			*13 360	*13 360	*9 930	7 010					*7 360	4 830	5 872
Boom 5.7 m Arm 2.5 m Shoe 600 mm CWT 4200 kg	7.5 m	kg											*5 650	*5 650	5 627
	6.0 m	kg							*5 480	5 400			*5 570	4 300	6 857
	4.5 m	kg					*6 970	*6 970	*5 990	5 230	5 630	3 660	5 510	3 580	7 596
	3.0 m	kg					*8 970	7 570	*6 870	4 980	5 530	3 560	5 000	3 230	7 983
	1.5 m	kg					*10 710	7 070	7 560	4 730	5 400	3 450	4 840	3 100	8 073
	0 m	kg					*11 490	6 840	7 380	4 580	5 320	3 370	4 960	3 160	7 874
	-1.5 m	kg					*10 860	*10 860	*11 400	6 810	7 320	4 530	5 460	3 460	7 362
	-3.0 m	kg			*14 650	13 540	*10 490	6 910	7 410	4 600			6 660	4 190	6 463
	-4.5 m	kg			*11 300	*11 300	*8 070	7 210					*7 100	6 290	4 961
Boom 5.7 m Arm 2.9 m Shoe 600 mm CWT 4200 kg	7.5 m	kg							*5 130	*5 130			*4 910	*4 910	6 174
	6.0 m	kg							*5 030	*5 030			*4 570	3 900	7 311
	4.5 m	kg							*5 600	5 280	*5 290	3 690	*4 510	3 290	8 006
	3.0 m	kg					*8 350	7 690	*6 510	5 010	5 540	3 570	*4 630	2 990	8 375
	1.5 m	kg					*10 250	7 130	*7 470	4 750	5 400	3 440	4 500	2 870	8 460
	0 m	kg			*5 420	*5 420	*11 290	6 830	7 360	4 560	5 290	3 350	4 600	2 920	8 270
	-1.5 m	kg	*6 260	*6 260	*10 320	*10 320	*11 450	6 740	7 280	4 480	5 260	3 310	5 000	3 160	7 786
	-3.0 m	kg	*11 380	*11 380	*15 460	13 330	*10 790	6 820	7 320	4 520			5 940	3 740	6 943
	-4.5 m	kg			*12 560	*12560	*8920	7 050					*6 820	5 220	5 577
Boom 5.7 m Arm 3.5 m Shoe 600 mm CWT 4200 kg	7.5 m	kg											*4 270	*4 270	6 792
	6.0 m	kg									*4 620	3 840	*4 060	3 550	7 837
	4.5 m	kg							*5 030	*5 030	*4 830	3 770	*4 050	3 040	8 488
	3.0 m	kg			*11 320	*11 320	*7 440	*7 440	*6 000	5 120	*5 300	3 630	*4 180	2 780	8 836
	1.5 m	kg					*9 530	7 300	*7 060	4 820	5 440	3 480	4 180	2 670	8 917
	0 m	kg			*7 100	*7 100	*10 930	6 890	7 410	4 600	5 310	3 360	4 240	2 700	8 738
	-1.5 m	kg	*6 270	*6 270	*10 380	*10 380	*11 450	6 730	7 270	4 470	5 230	3 290	4 550	2 880	8 281
	-3.0 m	kg	*10 200	*10 200	*15 300	13 140	*11 160	6 740	7 260	4 460			5 260	3 320	7 496
	-4.5 m	kg	*15 240	*15 240	*14 190	13 480	*9870	6 900	*7140	4 590			*6 710	4 350	6 255

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 EC220DL

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 point		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m		Max. reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	mm
Boom 5.7 m Arm 2.0 m Shoe 600 mm CWT 3700 kg	7.5 m	kg											*6 280	*6 280	4 933
	6.0 m	kg							*6 030	4 980			*6 080	4 570	6 305
	4.5 m	kg					*7 680	7 550	*6 430	4 840			5 770	3 680	7 102
	3.0 m	kg					*9 670	6 950	*7 240	4 600	5 190	3 290	5 170	3 280	7 516
	1.5 m	kg							7 120	4 390	5 090	3 210	4 980	3 140	7 611
	0 m	kg					11 060	6 400	6 980	4 270			5 140	3 220	7 399
	-1.5 m	kg					11 090	6 420	6 970	4 260			5 750	3 580	6 852
	-3.0 m	kg			*13 360	12 940	*9 930	6 570					7 360	4 530	5 872
Boom 5.7 m Arm 2.5 m Shoe 600 mm CWT 3700 kg	7.5 m	kg											*5 650	*5 650	5 627
	6.0 m	kg							*5 480	5 100			*5 570	4 050	6 857
	4.5 m	kg					*6 970	*6 970	*5 990	4 930	5 340	3 430	5 230	3 350	7 596
	3.0 m	kg					*8 970	7 130	*6 870	4 680	5 240	3 330	4 740	3 010	7 983
	1.5 m	kg					*10 710	6 620	7 170	4 430	5 120	3 220	4 580	2 890	8 073
	0 m	kg					11 070	6 400	6 990	4 270	5 030	3 150	4 700	2 940	7 874
	-1.5 m	kg			*10 860	*10 860	11 030	6 370	6 930	4 230			5 160	3 220	7 362
	-3.0 m	kg			*14 650	12 710	*10 490	6 470	7 020	4 300			6 310	3 910	6 463
	-4.5 m	kg			*11 300	*11 300	*8 070	6 770					*7 100	5 900	4 961
Boom 5.7 m Arm 2.9 m Shoe 600 mm CWT 3700 kg	7.5 m	kg							*5 130	*5 130			*4 910	4 900	6 174
	6.0 m	kg							*5 030	*5 030			*4 570	3 660	7 311
	4.5 m	kg							*5 600	4 980	*5 290	3 460	*4 510	3 080	8 006
	3.0 m	kg					*8 350	7 250	*6 510	4 710	5 250	3 340	4 400	2 790	8 375
	1.5 m	kg					*10 250	6 690	7 190	4 450	5 110	3 220	4 250	2 680	8 460
	0 m	kg			*5 420	*5 420	11 060	6 380	6 980	4 260	5 010	3 120	4 350	2 720	8 270
	-1.5 m	kg	*6 260	*6 260	*10 320	*10 320	10 970	6 300	6 890	4 180	4 970	3 090	4 720	2 940	7 786
	-3.0 m	kg	*11 380	*11 380	*15 460	12 510	*10 790	6 370	6 930	4 220			5 620	3 490	6 943
	-4.5 m	kg			*12 560	*12 560	*8 920	6 610					*6 820	4 890	5 577
Boom 5.7 m Arm 3.5 m Shoe 600 mm CWT 3700 kg	7.5 m	kg											*4 270	*4 270	6 792
	6.0 m	kg									*4 620	3 610	*4 060	3 330	7 837
	4.5 m	kg							*5 030	*5 030	*4 830	3 540	*4 050	2 850	8 488
	3.0 m	kg			*11 320	*11 320	*7 440	*7 440	*6 000	4 820	*5 300	3 410	4 080	2 590	8 836
	1.5 m	kg					*9 530	6 860	*7 060	4 520	5 160	3 250	3 950	2 490	8 917
	0 m	kg			*7 100	*7 100	*10 930	6 450	7 020	4 290	5 020	3 130	4 010	2 510	8 738
	-1.5 m	kg	*6 270	*6 270	*10 380	*10 380	10 950	6 290	6 880	4 170	4 950	3 060	4 300	2 680	8 281
	-3.0 m	kg	*10 200	*10 200	*15 300	12 310	10 960	6 300	6 870	4 160			4 980	3 090	7 496
	-4.5 m	kg	*15 240	*15 240	*14 190	12 660	*9 870	6 460	7 010	4 290			6 600	4 060	6 255

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 EC220DL

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 point		6.0 m		7.5 m		9.0 m		10.5 m		12.0 m		13.5 m		Max. reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	mm
Boom 5.7 m Arm 2.0 m Shoe 600 mm CWT 3700 kg	12.0 m	kg													*880	*880	10 291
	10.5 m	kg													*810	*810	11 610
	9.0 m	kg									*1 500	*1 500			*760	*760	12 612
	7.5 m	kg							*2 160	*2 160	*2 140	1 910			*740	*740	13 370
	6.0 m	kg							*2 330	*2 330	*2 270	1 860	*1 370	*1 370	*740	*740	13 923
	4.5 m	kg					*2 750	*2 750	*2 550	2 300	*2 410	1 780	*1 880	1 370	*750	*750	14 297
	3.0 m	kg	*4 530	*4 530	*3 660	*3 660	*3 140	2 800	*2 810	2 160	*2 580	1 680	2 240	1 320	*790	*790	14 504
	1.5 m	kg	*5 520	4 620	*4 270	3 390	*3 540	2 580	*3 080	2 010	2 660	1 590	2 180	1 260	*830	*830	14 553
	0 m	kg	*6 310	4 180	*4 800	3 100	*3 910	2 390	3 150	1 880	2 560	1 500	2 120	1 210	*900	*900	14 445
	-1.5 m	kg	*6 820	3 910	4 940	2 890	3 810	2 240	3 040	1 780	2 490	1 430	2 080	1 160	*1 000	*1 000	14 175
	-3.0 m	kg	6 680	3 780	4 800	2 770	3 700	2 140	2 970	1 710	2 440	1 380	*1 730	1 140	*1 130	1 110	13 736
	-4.5 m	kg	6 640	3 750	4 750	2 720	3 650	2 100	2 930	1 670	2 430	1 370			*1 320	1 210	13 109
	-6.0 m	kg	6 690	3 790	4 760	2 730	3 660	2 100	2 940	1 680	2 460	1 400			*1 620	1 360	12 265
	-7.5 m	kg	*6 450	3 900	4 840	2 810	3 720	2 160	3 010	1 750					*2 120	1 620	11 154
	-9.0 m	kg	*5 680	4 080	*4 520	2 950	*3 590	2 290							*3 170	2 090	9 684
	-10.5 m	kg	*4 360	*4 360	*3 310	3 210									*3 210	3 130	7 643

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
Automatic idling system
One-touch power boost
Safety stop/start function
Adjustable LCD color monitor
Master electrical disconnect switch
Engine restart prevention circuit
High-capacity halogen lights:
– Frame-mounted 2
– Boom-mounted 2
Batteries, 2 x 12 V / 150 Ah
Start motor, 24 V / 5.5 kW

Hydraulic system

Automatic sensing hydraulic system
– Summation system
– Boom priority
– Arm priority
– Swing priority
“ECO” mode fuel saving technology
Boom, arm and bucket 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

Frame

Access way with handrail
Tool storage area
Punched metal anti-slip plates
Under cover

Cab and interior

Travel pedals and hand levers
Adjustable operator seat with heater and joystick control console
Control joysticks
Heater & air-conditioner, automatic
Flexible antenna
AM/FM stereo with CD player, MP3 and USB input
Control lock out 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
– Windshield wiper with intermittent feature
Master key
– Sun screens, front, roof, rear

Undercarriage

Under cover
Hydraulic track adjusters
Greased and sealed track link
Track Guard

Digging Equipment

Linkage

OPTIONAL EQUIPMENT

Engine

Block heater: 240 V
Oil bath pre-cleaner
Diesel coolant heater, 5 kW
Water separator with heater
Auto engine shutdown
Fuel filler pump, 35 lpm, 50 lpm with automatic shut-off

Electric

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

Hydraulic system

Hose rupture valve: boom, arm
Overload warning device
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
– Oil leak (drain) line
– Quick coupler piping
Volvo hydraulic quick coupler S1, S1 without hook
Volvo hydraulic quick coupler U21
Hydraulic oil, ISO VG 32, 68
Hydraulic oil, longlife oil 32, 46, 68

OPTIONAL EQUIPMENT

Cab and interior
Silicon oil and rubber mounts with spring
ROPS (ISO12117-2) certified cab
Fabric seat without heater
Fabric seat with heater and air suspension
Control joysticks with semi-long
Control joysticks with 3 switch & 1 proportional
Pilot control pattern change
Straight travel pedal
Opening top hatch
Cab-mounted falling object guard (FOG)
Cab-mounted falling object protective structure (FOPS)
Smoker kit (ashtray and lighter)
Safety net for front window
Front rain shield
Sun shield, roof hatch (steel)
Lower wiper with intermittent control
Anti-vandalism kit
Rear view camera
Specific key
Undercarriage
Full track guard
Track shoes
500/600/700/800/900 mm with triple grousers
Track shoes 600 mm HD with triple grousers
Track shoes 700 mm with double grousers
Frame
Rear view mirror on counterweight
Full height counterweight:
3 700kg, 4 200kg
4 900kg for long reach
Digging equipment
Boom: 5.7 m monoblock, 8.85 m long reach
Arm: 2.0 m, 2.5 m, 2.9 m, 3.5 m
Arm: 6.25 m, long reach
Linkage with lifting eye
Service
Tool kit, daily maintenance
Tool kit, full scale

SELECTION OF VOLVO OPTIONAL EQUIPMENT

X1 electrical pedal

Diesel coolant heater

Long life hydraulic oil

Additional working lights

Rear view camera

Oil bath pre-cleaner

Ref. No 20035507_D / English-30 / 2019.09 / EXC / Volvo, Global Marketing