

V O L V O

EC220

Mining

22.9 - 23.56 t | 167 HP



Volvo Construction Equipment

ULTIMATE power

Get the most out of your excavator in any application. The EC220 Mining is equipped with a range of features to ensure a superior performance, shift after shift. Designed with Volvo's extensive experience and expertise, this robust machine delivers ultimate productivity and efficient operation in mining applications.

Powerful Volvo Engine

Experience ultimate power with the robust Volvo engine, working together with the machine's proven hydraulics. This engine delivers high torque at low rpm for the ultimate combination of performance and improved fuel efficiency.



Enhanced operator performance

Operate in comfort for a more productive work shift. The EC220 Mining is equipped with a spacious and safe operator environment offering enhanced all-around visibility, an adjustable seat and ergonomic controls. The improved cab interior features a new I-ECU monitor that displays a range of information for efficient operation.



Excellent controllability

The EC220 Mining features increased hydraulic flow for responsive, accurate control in grading and combined operations. Benefit from smoother and easier movement when traveling and lifting simultaneously as well as better grading quality from the harmonized boom and arm movement.



Efficient work mode

For fast cycle times and optimum fuel consumption, the EC220 Mining is equipped with the new G4 work mode. Operators can choose the best mode to suit the task at hand, selecting from I (Idle), F (Fine), G (General), H (Heavy) and P (Power max) mode. Choose the correct mode according to your working conditions for added versatility and increased productivity.

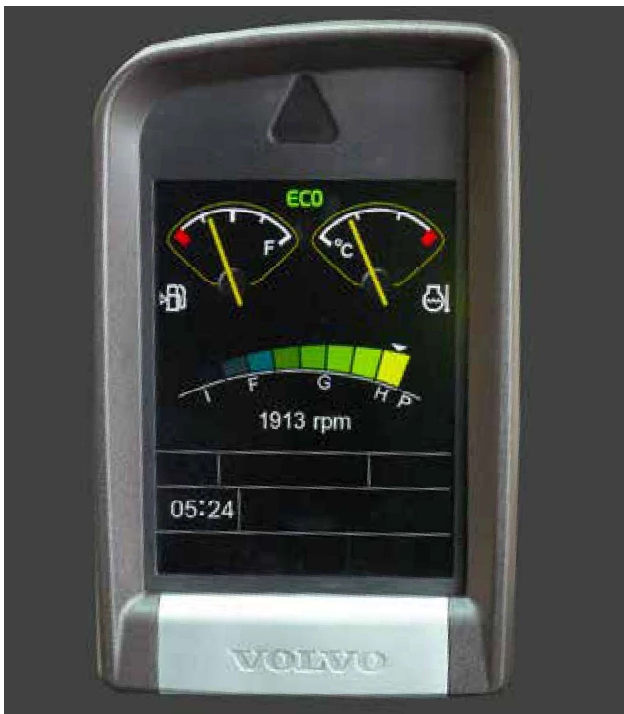


BEST-IN-CLASS efficiency

The Volvo EC220 Mining is a versatile machine that ensures optimum profitability. This excavator is designed to enhance productivity and reduce operating costs, aiming at improving fuel efficiency with help of Volvo's intelligent ECO mode. Excellent service access and a durable design guarantee a long machine life and allow you to get the most out of your machine.

ECO mode

Work efficiently and profitably with Volvo's intelligent ECO mode. This feature contributes to the machine's total improved fuel efficiency – without any loss of performance. The design optimizes flow and pressure while maintaining digging power and swing torque.



Easy to service

The EC220 Mining is built to ensure servicing is safe, quick and easy, featuring anti-slip plates, grouped filters, ground-level service access and centralized lubrication points. Long service intervals enhance machine availability and increase uptime for maximum productivity.



Genuine Volvo Parts

Volvo Parts are extensively tested and approved because every part is vital for uptime and performance. Only by using Genuine Volvo Parts, you can be sure that your machine retains the renowned Volvo quality.

Superior durability

Benefit from a robust performance, shift after shift. Built with durable components for outstanding results in all applications, the EC220 Mining is designed to secure lasting machine value and an excellent return on investment.



BUILT to last

With cutting-edge technology, outstanding efficiency and a robust design, the EC220 Mining can be fitted with a selection of buckets and breaker, that work in harmony with the machine and handles heavy loads with ease. Overcomes rough terrain and delivers outstanding productivity in a variety of jobs and applications by enhancing profitability. The Volvo EC220 Mining is a versatile, high-performance machine designed to achieve outstanding results.

Quality Volvo buckets

Volvo offers a range of high quality buckets designed to perform efficiently in a variety of materials. Featuring exceptional design and built-in durability, these buckets are equipped with Volvo teeth to handle the toughest applications.



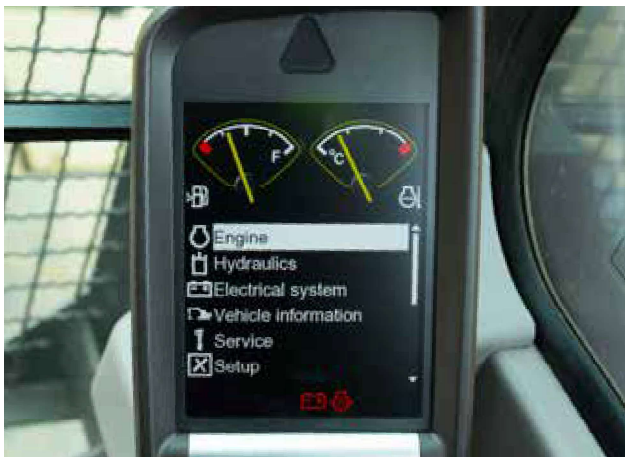
Powerful breakers

The EC220 Mining can be equipped with a top mounted Volvo hydraulic breaker built to break even most demanding materials. With consistent power and high breaking force you'll benefit from maximum impact and durability. Set your Volvo breaker at the right frequency to suit your application needs.



Attachment Management System

Pre-set and adjust hydraulic flow from the monitor inside the cab with this password-protected management system, providing storage for up to 20 different attachments for increased versatility. You can choose between one or two pump flow to maximize profits and productivity.



Optional auxiliary piping

The Volvo-designed hydraulic breaker / shear piping and quick coupler piping option provides optimum flow to the hydraulic attachments. State-of-the-art auxiliary lines allow the correct flow and pressure for special attachments.



Volvo EC220 Mining in detail

Engine		
The engine, which provide excellent performance, is equipped with four cylinder, vertical, electronic-controlled, high pressure, fuel injectors, turbocharger with waste gate, air-to-air intercooler and water cooled diesel type.		
Engine	Volvo	D5E
Max. power at	r/min	2000
Net ISO 9249/SAEJ1349	kW	115
	hp	156
Gross, ISO 14396/SAEJ1995	kW	123
	hp	167
Max. torque	Nm	670
at engine speed	r/min	1600
No. of cylinders		4
Displacement	l	4.7
Bore	mm	108
Stroke	mm	130
Electrical System		
Well protected high-capacity electrical system. Waterproof double-lock connectors are used to ensure corrosion-free connection. Main relays and fuses are located in a shielded electrical distribution box. The master switch is standard. Advanced monitoring of machine functions and important diagnostic information is displayed on the I-ECU.		
Voltage	V	24
Batteries	V	2 x 12
Battery Capacity	Ah	120
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	12.3
Max. slew torque	kNm	76.7
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	183
Max. travel speed (low)	km/h	3.6
Max. travel speed (high)	km/h	5.8
Gradeability	°	35
Undercarriage		
The idlers, track links, upper and bottom rollers are built to withstand all elements and terrain.		
EC220 Mining		
Track shoe		2 x 49
Link pitch	mm	190
Shoe width, triple grouser (HD)	mm	600
Bottom rollers		2 X 8
Top rollers		2 x 2
EC220 Mining LR		
Track shoe		2 x 49
Link pitch	mm	190
Shoe width, triple grouser	mm	800
Bottom rollers		2 x 8
Top roller		2 x 2

Hydraulic System		
The hydraulic system and MCV (main control valve) use intelligent technology to control on-demand flow for high productivity, high-digging capacity 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 levelling 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.		
2 x Variable displacement axial piston pumps		
Maximum flow	l/min	2 x 212
Gear pump		
Maximum flow	l/min	1 x 18
Relief valve setting pressure		
Implement	MPa	32.4/4.3
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 1235
Arm		1
Bore x Stroke	ø x mm	135 x 1540
Bucket		1
Bore x Stroke	ø x mm	120 x 1065
Bucket for LR Boom		1
Bore x Stroke	ø x mm	100 x 865
Service Refill		
Fuel tank	l	375
Hydraulic system, total	l	300
Hydraulic tank	l	160
Engine oil	ltr	19.5
Engine coolant	ltr	15
Slew reduction unit	l	8.6
Travel reduction unit	l	2 x 5.8
Cab		
The Volvo cab features a brand new Volvo styling including a strong cab structure, slim pillars and a large glass area for good visibility, a spacious cab, an ergonomic switch layout, efficient air ventilation and a pressurized cab.		
Sound Level		
Sound level in cab according to ISO 6396		
LpA (standard)	dB(A)	73
LpA (tropical)	dB(A)	73.5
External sound level according to ISO 6395, GB16710-2010		
LwA (standard)	dB(A)	102.5
LwA (tropical)	dB(A)	103.5

Specifications

MACHINE WEIGHTS AND GROUND PRESSURE				
Description	Shoe width	Operating weight	Ground pressure	Overall width
Units	mm	kg	kPa	mm
EC220 Mining	5.7m boom, 2.5m Arm, 1.1 Cu.M HD /1100 kg bucket, 4200 kg counterweight			
Triple grouser, HD	600	22878	0.48	2990
EC220 Mining LR	8.85m boom, 6.25m Arm, 0.52 Cu.M GP/ 460 kg bucket, 4900 counterweight			
Triple grouser	800	23454	0.37	3190

Specifications

Bucket type		Capacity	Cutting width	Weight	EC220 Mining 5.7m Boom	EC220 Mining LR 8.85M LR Boom
Direct Fit	GP	L	mm	kg	HD 2.5 m Arm	6.25 m Arm
		520	1020	454	X	B
		1220	1505	895	B	X
		1600 RH	1840	820	A	X
	HD	1100	1395	1100	C	X

A 1200~1300 kg/m³ Coal, Caliche, Shale

B 1400~1600 kg/m³ Wet earth and clay, Limestone, Sandstone

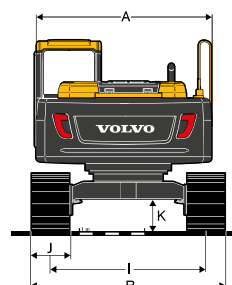
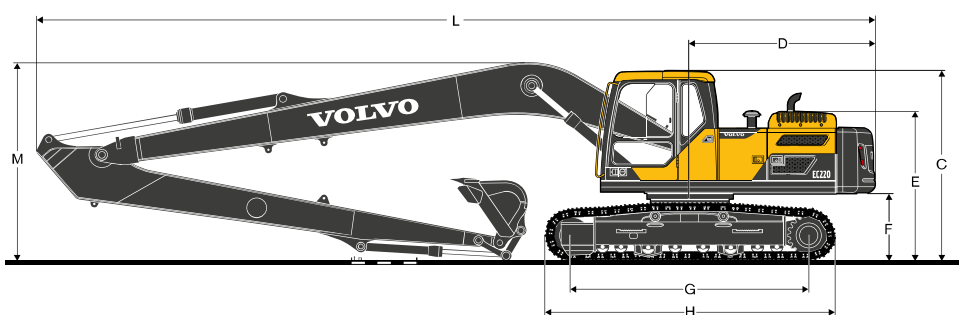
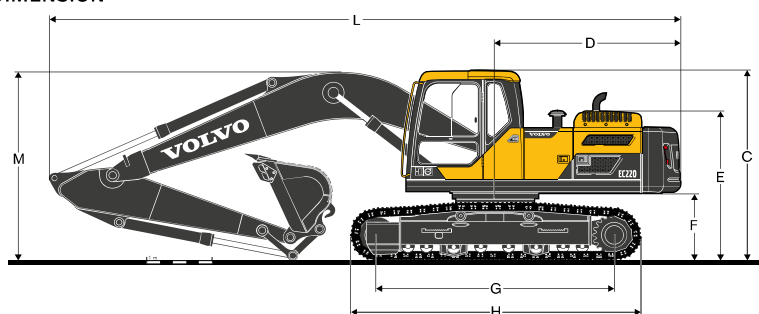
C 1700~1800 kg/m³ Granite, Wet sand, Well blasted rock

X Not recommended

2.9 arm as optional

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.

DIMENSION



Description		Unit	EC220 Mining	EC220 Mining LR
Boom		m	5.7	8.85
Arm		m	2.5	6.25
A	Overall width of upper structure	mm	2700	2700
B	Overall width	mm	2990	3190
C	Overall height of cab	mm	2930	2930
D	Tail swing radius	mm	2850	2850
E	Overall height of engine hood	mm	2315	2315
F	Counterweight clearance*	mm	1025	1025
G	Tumbler length	mm	3660	3660
H	Track length	mm	4460	4460
I	Track gauge	mm	2390	2390
J	Shoe width	mm	600	800
K	Min. ground clearance*	mm	460	460
L	Overall length	mm	9745	12880
M	Overall height of boom	mm	3080	3055

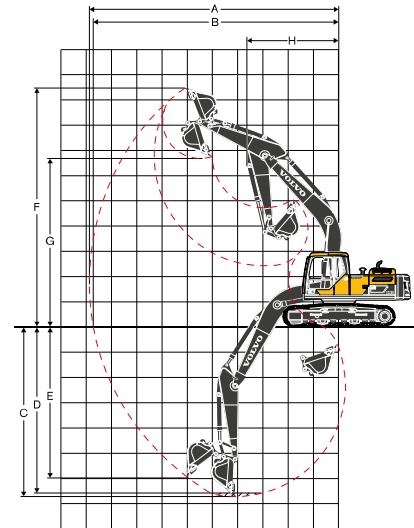
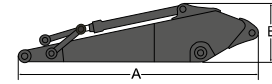
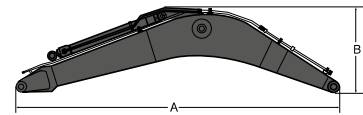
* Without shoe grouser

Specifications

			Standard		Long Reach	
Description		Unit	Mono Boom	Arm	Boom	Arm
		m	5.7	2.5	8.85	6.25
A	Length	mm	5910	3525.0	9060	7330.0
B	Height	mm	1585	860.0	1460	945.0
	Width	mm	670	440.0	670	385.0
	Weight	kg	2110	1129.0	2510	1309.0

WORKING RANGES WITH DIRECT FIT BUCKET

Description		Unit	Standard	Long Reach
Boom		m	5.7	8.85
Arm		m	2.5	6.25
A	Max. digging reach	mm	9580	15800
B	Max. digging reach on ground	mm	9410	15700
C	Max. digging depth	mm	6360	12100
D	Max. digging depth (2.44m level)	mm	6140	12000
E	Max. vertical wall digging depth	mm	5430	11290
F	Max. cutting height	mm	9240	13300
G	Max. dumping height	mm	6400	10950
H	Min. front swing radius	mm	3670	5200



DIGGING FORCES WITH DIRECT FIT BUCKET				EC220 Mining		EC220 Mining LR	
Description				Unit			
Boom				m		5.7	
Arm				m		2.5	
Bucket radius				mm		1503	
Breakout force bucket	Normal	SAEJ1179	kN	120		68	
	Power boost	SAEJ1179	kN	127		-	
	Normal	ISO 6015	kN	136		77	
	Power boost	ISO 6015	kN	144		-	
Tearout force - dipper arm	Normal	SAE J1179	kN	111		44	
	Power boost	SAE J1179	kN	118		-	
	Normal	ISO 6015	kN	114		45	
	Power boost	ISO 6015	kN	121		-	
Rotation angle, bucket				175		178	

LIFTING CAPACITY EC220 Mining

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 the quick coupler from the following values.

	Lifting hook related to ground level		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	m		
Boom: 5.7 m Arm: 2.5 m Shoe: 600 mm CWT: 4200 kg	7.5 m	kg									*5280	4930	5.6		
	6.0 m	kg					*5120	4440					*5200	3500	6.9
	4.5 m	kg			*6520	*6520	*5600	4270	4560	2950	*4460	2880	7.6		
	3.0 m	kg			*8380	6110	6320	4020	4460	2860	4040	2570	8.0		
	1.5 m	kg			9430	5620	6060	3780	4340	2750	3890	2460	8.1		
	0 m	kg			9170	5400	5880	3630	4260	2670	3980	2500	7.9		
	-1.5 m	kg	*10270	*10270	9130	5370	5830	3580			4370	2730	7.4		
	-3.0 m	kg	*13680	10550	9250	5470	5910	3660				5330	3330	6.5	
	-4.5 m	kg	*10530	*10530	*7520	5760							*6610	5040	5.0