

V O L V O



Volvo Excavators 20.6 t 123 kW

**EC210**

Volvo Construction Equipment

# EC210

A great partner to tackle the most demanding jobs. The new generation of Volvo EC210 will perform above its size and maximize your Return On Investment.



# A robust performer

Volvo EC210 is a robust machine that will be your perfect partner across all segments. With improved fuel economy and longer service intervals, EC210 will ensure a quicker Return On Investment while still being able to punch above its weight in performance.



## Fuel Economy

- Up to 15% improvement
- Engine pump optimization with engine speeds as low as 1 800 rpm
- New Posicon MCV
- Improved ECO mode and work modes



## Productivity

- A powerful D5 engine, matched with the new posicon hydraulics
- HD boom, arm and 600 mm\* track shoe
- Optimum bucket capacities
- Faster cycle times



## Serviceability

- Ground level access for service
- Longer service intervals - up to 6 000-hours hydraulic oil change
- Grouped filters and lubrication points



## Safety

- Increased onsite safety for the operator
- 8" HD resolution display
- 3-point side access
- Counterweight embedded with Rear view Camera and LED lights



## Operator comfort

- More precise controls
- Quieter cab
- ROPS cab as standard
- New Human-Machine Interface
- Improved operator environment



## Performance Enablers\*

- Powered by new Volvo Co-Pilot
- Dig Assist with On-Board Weighing
- Breaker piping\*
- Fuel filler pump

\*Please contact your local dealership for more information

# Volvo EC210 in detail

Engine		
Engine	Volvo	D5E
Max power at	r/min	2 000
Net, ISO 9249/SAE J1349	kW	115
	hp	156
Gross, ISO 14396/SAE J1995	kW	123
	hp	167
Max torque	Nm	670
at engine speed	r/min	1 600
No. of cylinders		4
Displacement	l	4.76
Bore	mm	108
Stroke	mm	130

Electrical system		
Voltage	V	24
Batteries	V	2 x 12
Battery capacity	Ah	100
Alternator	V/A	28 / 80
Start motor	V - kW	24 - 5.5

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

Swing system		
The swing system uses an axial piston motors, driving a planetary gearbox for maximum torque. An automatic holding brake and antirebound valve are standard.		
Max. slew speed	r/min	13
Max. slew torque	kNm	69.1

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	172
Max. travel speed (low)	km/h	3.4
Max. travel speed (high)	km/h	5.6
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.		
<b>Integrated airconditioning and heating system:</b> The pressurized and filtered cab air is supplied by an automatically controlled fan. The air is distributed throughout the cab from 14 vents.		
<b>Ergonomic operator's seat:</b> 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. Refrigerant of the type R134a is used when this machine is equipped with air conditioning. Contains fluorinated greenhouse gas R134a, Global Warming Potential 1430 CO <sub>2</sub> -eq.		

Sound Level		
Sound pressure level in cab according to ISO 6396		
L <sub>pA</sub>	dB	71
External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC		
L <sub>WA</sub>	dB	104

Engine power @ displayed rpm are according to ISO /SAE norms / rpm settings may vary depending on market requirements and regulations. Please always refer to the Operator Manual.

Service Refill		
Fuel tank	l	390
Hydraulic system, total	l	260
Hydraulic tank	l	120
Engine oil	l	17
Engine coolant	l	18.5
Slew reduction unit	l	5
Travel reduction unit	l	2 x 3.5

#### Hydraulic system

The new electro-hydraulic system and new MCV (main control valve) use intelligent technology to control on-demand flow for high productivity, high-digging capacity and excellent fuel consumption.

The following important functions are included in the system for optimum performance:

**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 200
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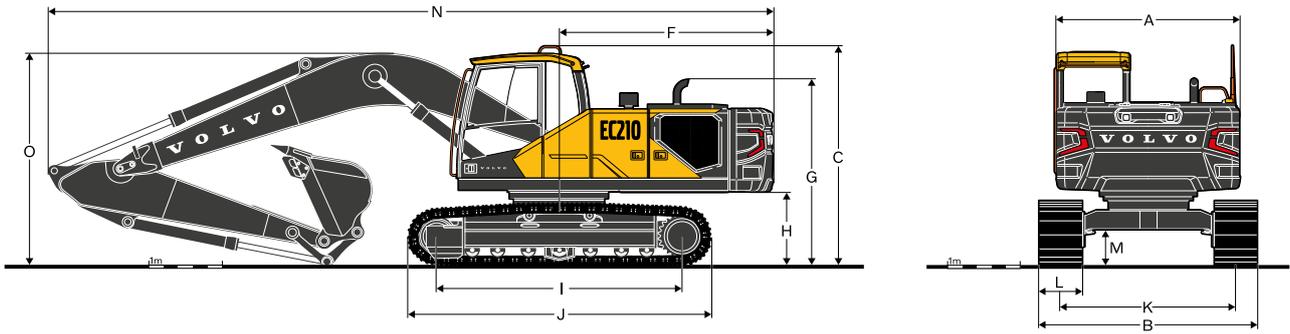
#### Pilot pump: Type Gear pump

Maximum flow	l/min	18
Max. pressure		32.4
Implement	MPa	32.4
Travel circuit	MPa	32.4
Slew circuit	MPa	28.4
Pilot circuit	MPa	3.9

#### Hydraulic Cylinders

Mono boom		2
Bore x Stroke	ø x mm	120 x 1 235
Arm		1
Bore x Stroke	ø x mm	130 x 1 540
Bucket		1
Bore x Stroke	ø x mm	120 x 1 065

# Specifications

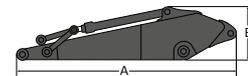
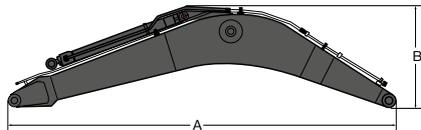


## DIMENSIONS

	Unit	EC210F	
<b>Boom</b>	m	<b>5.7 m</b>	
<b>Arm</b>	m	<b>2.5 m</b>	<b>2.9 m</b>
A. Overall width of upper structure	mm	2 500	
B. Overall width**	mm	2 800	
C. Overall height of cab	mm	2 915	
D. Overall height of hood	mm	2 229	
E. Overall height of handrail	mm	3 032	
F. Tail swing radius	mm	2 850	
H. Counterweight clearance *	mm	1 011	
I. Tumbler length	mm	3 370	
J. Track length	mm	4 163	
K. Track gauge	mm	2 200	
L. Shoe width	mm	600	
M. Min. ground clearance *	mm	460	
N. Overall length	mm	9 745	9 690
O. Overall height of boom	mm	3 080	2 926

\* Without shoe grouser

\*\* Shoe end to end

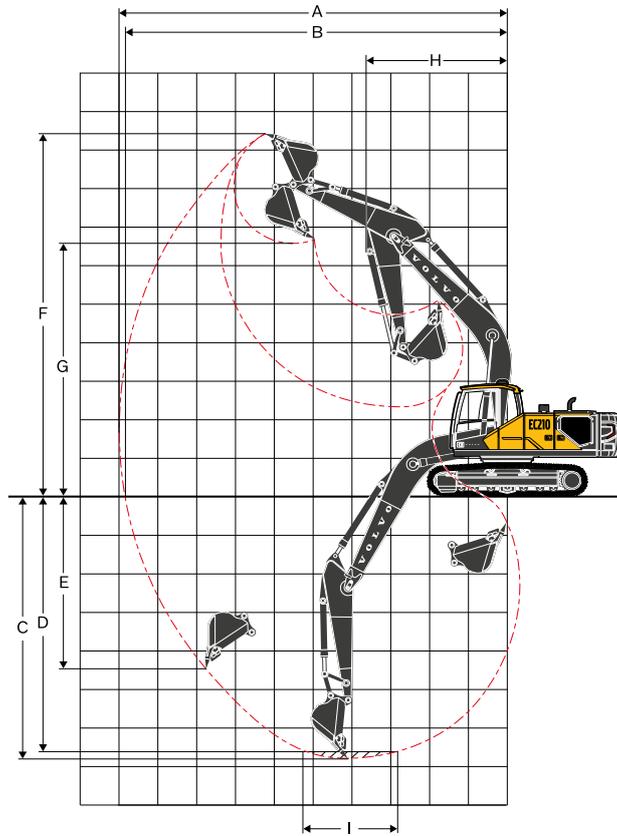


## DIMENSIONS

Description	Unit	Boom		Description	Unit	Arm		
	m	5.7 m HD			m	2.5 m HD	2.9 m HD	2.9 m GP
A. Length	mm	5 910		A. Length	mm	3 525	3 910	3 910
B. Height	mm	1 585		B. Height	mm	860	860	860
Width	mm	670		Width	mm	440	440	440
Weight	kg	1 581		Weight	kg	728	756	720
Weight*	kg	2 219		Weight*	kg	1 056	1 084	1 048

\* Includes arm cylinder, piping and pin

\* Includes bucket cylinder, linkage and pin



#### WORKING RANGES WITH DIRECT FIT BUCKET

Description	Unit	EC210F	
Boom	m	5.7 m	
Arm	m	2.5 m	2.9 m
A. Max. digging reach	mm	9 550	9 930
B. Max. digging reach on ground	mm	9 380	9 770
C. Max. digging depth	mm	6 330	6 730
D. Max. digging depth (l=2.44 m level)	mm	6 100	6 540
E. Max. vertical wall digging depth	mm	5 620	6 090
F. Max. cutting height	mm	9 220	9 460
G. Max. dumping height	mm	6 430	6 650
H. Min. front swing radius	mm	3 670	3 640

#### DIGGING FORCES WITH DIRECT FIT BUCKET

Breakout force (bucket)	Normal	SAE J1179	kN	123	123
	Power boost	SAE J1179	kN	-	-
	Normal	ISO 6015	kN	136	136
	Power boost	ISO 6015	kN	-	-
Tearout force (arm)	Normal	SAE J1179	kN	105	90
	Power boost	SAE J1179	kN	-	-
	Normal	ISO 6015	kN	109	93
	Power boost	ISO 6015	kN	-	-

# Specifications

## GROUND PRESSURE

### EC210F

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	20 600	43.5	2 800	20 800	44.0	2 800
	700	20 730	38.0	2 900	21 190	38.4	2 900
	800	20 990	33.7	3 000	21 480	34.1	3 000
Triple grouser (HD)	600	21 280	43.8	2 800	20 930	44.2	2 800
				<b>EC210F with STD undercarriage, 5.7 m GP boom, 2.9 m GP arm, 782 kg bucket, 3 800 kg counterweight</b>		<b>EC210F with STD undercarriage, 5.7 m GP boom, 2.9 m GP arm, 782 kg bucket, 4 000 kg counterweight</b>	
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	20 760	43.9	2 800	20 960	44.3	2 800
	700	21 150	38.3	2 900	21 350	38.7	2 900
	800	21 440	34.0	3 000	21 640	34.3	3 000
Triple grouser (HD)	600	20 890	44.2	2 800	21 090	44.6	2 800
				<b>EC210F with STD undercarriage, 5.7 m HD boom, 2.9 m HD arm, 782 kg bucket, 3 800 kg counterweight</b>		<b>EC210F with STD undercarriage, 5.7 m HD boom, 2.9 m HD arm, 782 kg bucket, 4 000 kg counterweight</b>	
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	20 720	43.8	2 800	20 850	44.1	2 800
	700	21 110	38.2	2 900	21 310	38.6	2 900
	800	21 400	33.9	3 000	21 600	34.2	3 000
Triple grouser (HD)	600	20 850	44.1	2 800	21 050	44.5	2 800
				<b>EC210F with STD undercarriage, 5.7 m HD boom, 2.5 m HD arm, 782 kg bucket, 3 800 kg counterweight</b>		<b>EC210F with STD undercarriage, 5.7 m HD boom, 2.5 m HD arm, 782 kg bucket, 4 000 kg counterweight</b>	

**BUCKET SELECTION GUIDE**

Bucket Type	Capacity	Cutting width	Weight	Recommended maximum material density (kg/m <sup>3</sup> )	
				EC210F with 600 mm shoe, 3 800 kg counterweight	
				5.7 m GP Boom	
				L	mm
FD	950	1 500	725		1 600
	1 030	1 600	761		1 600
GP	800	1 120	664		1 800
	800	1 120	655		1 800
	800	970	763		1 800
	850	1 075	793		1 800
	900	1 115	758		1 800
	900	1 255	770		1 800
	920	1 145	823		1 800
	920	1 230	748		1 800
	920	1 230	738		1 800
	920	1 090	812		1 800
	920	1 090	854		1 800
	920	1 090	827		1 800
	950	1 150	740		1 800
	1 000	1 210	782		1 800
	1 000	1 210	766		1 800
	1 000	1 160	831		1 800
	1 000	1 160	831		1 800
	1 090	1 200	950		1 700
1 100	1 380	794		1 700	

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. A: 1 200 kg/m<sup>3</sup>

Maximum material density

D: 2 100 kg/m<sup>3</sup>

C: 1 800 kg/m<sup>3</sup>

B: 1 500 kg/m<sup>3</sup>

A: 1 200 kg/m<sup>3</sup>

X : Not recommended

# Specifications

## LIFTING CAPACITY EC210F

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		Max. reach		Max. m	
		Along UC	Across UC	Along UC	Across UC										
Boom : 5.7 m HD Arm : 2.9 m HD Shoe : 600 mm CWT : 3 800 kg	7.5 m	kg						*3 950	*3 950			*3 490	*3 490	6.2 m	
	6.0 m	kg						*3 910	*3 910			*3 240	3 140	7.3 m	
	4.5 m	kg						*4 340	4 310	*4 070	2 960	*3 190	2 620	8.0 m	
	3.0 m	kg					*6 490	6 190	*5 030	4 030	*4 370	2 840	*3 270	2 350	8.4 m
	1.5 m	kg					*7 940	5 620	*5 760	3 760	4 270	2 710	*3 500	2 240	8.5 m
	0 m	kg			*4 230	*4 230	*8 730	5 310	5 770	3 560	4 160	2 610	3 610	2 260	8.3 m
	-1.5 m	kg	*4 890	*4 890	*8 130	*8 130	*8 850	5 230	5 680	3 480	4 130	2 570	3 930	2 450	7.8 m
	-3.0 m	kg	*8 960	*8 960	*11 950	10 240	*8 320	5 300	5 730	3 520			4 670	2 920	6.9 m
-4.5 m	kg			*9 640	*9 640	*6 840	5 550					*5 200	4 120	5.6 m	
Boom : 5.7 m HD Arm : 2.9 m HD Shoe : 600 mm CWT : 4 000 kg	7.5 m	kg						*3 950	*3 950			*3 490	*3 490	6.2 m	
	6.0 m	kg						*3 910	*3 910			*3 240	3 230	7.3 m	
	4.5 m	kg						*4 340	*4 340	*4 070	3 050	*3 190	2 700	8.0 m	
	3.0 m	kg					*6 490	6 360	*5 030	4 150	*4 370	2 930	*3 270	2 430	8.4 m
	1.5 m	kg					*7 940	5 790	*5 760	3 870	4 380	2 790	*3 500	2 310	8.5 m
	0 m	kg			*4 230	*4 230	*8 730	5 480	5 920	3 680	4 270	2 690	3 710	2 340	8.3 m
	-1.5 m	kg	*4 890	*4 890	*8 130	*8 130	*8 850	5 400	5 830	3 600	4 240	2 660	4 030	2 540	7.8 m
	-3.0 m	kg	*8 960	*8 960	*11 950	10 540	*8 320	5 470	5 870	3 640			4 790	3 020	6.9 m
-4.5 m	kg			*9 640	*9 640	*6 840	5 710					*5 200	4 250	5.6 m	
Boom : 5.7 m GP Arm : 2.9 m GP Shoe : 600 mm CWT : 3 800 kg	7.5 m	kg										*3 533	*3 533	6.1 m	
	6.0 m	kg						*3 937	*3 937			*3 257	3 221	7.3 m	
	4.5 m	kg						*4 336	4 237	*4 110	2 912	*3 198	2 672	8.0 m	
	3.0 m	kg					*6 409	6 114	*5 012	3 987	4 341	2 812	*3 279	2 395	8.4 m
	1.5 m	kg					*7 861	5 575	*5 738	3 729	4 209	2 690	*3 506	2 282	8.5 m
	0 m	kg			*4 459	*4 459	*8 682	5 280	5 693	3 547	4 110	2 599	3 656	2 313	8.3 m
	-1.5 m	kg	*4 990	*4 990	*8 401	*8 401	8 763	5 203	5 611	3 475	4 087	2 572	3 978	2 508	7.8 m
	-3.0 m	kg	*9 149	*9 149	*11 902	10 102	*8 278	5 271	5 656	3 515			4 754	2 998	6.9 m
-4.5 m	kg			*9 516	*9 516	*6 713	5 511					*5 284	4 286	5.5 m	
Boom : 5.7 m GP Arm : 2.9 m GP Shoe : 600 mm CWT : 4 000 kg	7.5 m	kg						*3 960	*3 960			*3 500	*3 500	6.2 m	
	6.0 m	kg						*3 950	*3 950			*3 250	*3 250	7.3 m	
	4.5 m	kg						*4 390	*4 390	*4 120	3 080	*3 200	2 730	8.0 m	
	3.0 m	kg					*6 560	6 400	*5 090	4 190	*4 420	2 970	*3 280	2 460	8.4 m
	1.5 m	kg					*8 030	5 860	*5 840	3 920	4 420	2 840	*3 510	2 360	8.5 m
	0 m	kg			*4 240	*4 240	*8 840	5 570	5 970	3 740	4 310	2 740	3 750	2 390	8.3 m
	-1.5 m	kg	*4 900	*4 900	*8 130	*8 130	*8 960	5 490	5 890	3 660	4 280	2 710	4 070	2 590	7.8 m
	-3.0 m	kg	*8 970	*8 970	*12 110	10 690	*8 430	5 560	5 930	3 700			4 840	3 070	6.9 m
-4.5 m	kg			*9 780	*9 780	*6 940	5 790					*5 280	4 310	5.6 m	
Boom : 5.7 m HD Arm : 2.5 m HD Shoe : 600 mm CWT : 3 800 kg	7.5 m	kg										*4 380	*4 380	5.6 m	
	6.0 m	kg						*4 230	*4 230			*4 290	3 450	6.9 m	
	4.5 m	kg					*5 430	*5 430	*4 620	4 230	*4 330	2 900	*4 330	2 830	7.6 m
	3.0 m	kg					*6 970	6 070	*5 300	3 970	4 370	2 800	3 950	2 520	8.0 m
	1.5 m	kg					*8 320	5 570	5 960	3 730	4 250	2 690	3 800	2 400	8.1 m
	0 m	kg					*8 920	5 350	5 780	3 570	4 170	2 610	3 890	2 440	7.9 m
	-1.5 m	kg			*8 480	*8 480	*8 840	5 310	5 720	3 520			4 270	2 680	7.4 m
	-3.0 m	kg			*11 360	10 500	*8 100	5 420	5 810	3 600			5 230	3 270	6.5 m
-4.5 m	kg			*8 670	*8 670	*6 160	5 700					*5 400	4 980	5.0 m	
Boom : 5.7 m HD Arm : 2.5 m HD Shoe : 600 mm CWT : 4 000 kg	7.5 m	kg										*4 380	*4 380	5.6 m	
	6.0 m	kg						*4 230	*4 230			*4 290	3 550	6.9 m	
	4.5 m	kg					*5 430	*5 430	*4 620	4 340	*4 330	2 980	*4 330	2 910	7.6 m
	3.0 m	kg					*6 970	6 240	*5 300	4 090	4 480	2 890	4 050	2 600	8.0 m
	1.5 m	kg					*8 320	5 740	*5 980	3 850	4 360	2 780	3 900	2 480	8.1 m
	0 m	kg					*8 920	5 510	5 930	3 690	4 280	2 700	3 990	2 520	7.9 m
	-1.5 m	kg			*8 480	*8 480	*8 840	5 480	5 870	3 640			4 380	2 770	7.4 m
	-3.0 m	kg			*11 360	10 810	*8 100	5 580	*5 940	3 710			*5 320	3 380	6.5 m
-4.5 m	kg			*8 670	*8 670	*6 160	5 870					*5 400	5 120	5.0 m	

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 T3 requirements	•
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### Engine

Cooling system by Direct Fan	•
Cooling system by Hydraulic Fan	•
Air filter with indicator	•
Air intake heater	•
Rain Cap	•
Cyclone pre-cleaner	•
Fuel shut off valve	•
Engine block heater	o
Coolant heater by diesel	o
Precleaner, oil bath	o
Automatic engine shutdown	•
Water separator with heater	o
Fuel filter and water separator	•

### Electric / electronic control system

Anti-theft with code lock system	•
Automatic idling system	•
Standard light	•
Extra light	o
Master electrical disconnect switch	•
Engine restart prevention circuit	•

### Undercarriage and structures

3-point side access	•
Guardrail, fixed/foldable	o
Lower frame, LC	o
Lower frame, STD	o
Link 600 / 700 / 800 mm triple grouser shoe	o
Link 600 mm triple grouser shoe, HD	o
Dual toolbox	•
Undercover STD/HD	o

### Hydraulic system

Pilot-Hydraulic control system	•
One touch power boost	•
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
Comfort driving control	o
Dedicated drain line	o
Hose rupture valve for boom	o
Hose rupture valve for arm	o

## STANDARD AND OPTIONAL EQUIPMENT

• = Standard / o = Optional

### Cab and interior

ROPS certified cab	•
FOG (Falling Object Guard)	o
FOPS (Falling Object Protection Structure)	o
8" HD display	•
Mechanical sus/Air sus seat	o
Seat belt, 2 inch 2 point / 3 inch 2 point / 3 inch 3 point	o
Front rain shield	o
Sun screens, front, roof, rear	•
Lower wiper	o
Sun shield, roof hatch	o
Safety net	o
Travel pedals and hand levers	•
Adjustable operator seat and joystick control console	•
Heater & air-conditioner, automatic	•
air-conditioner, automatic	o
AM/FM/USB/Bluetooth stereo with Keypad	•
Large storage area	•
Pull-up type front window	•
Removable lower windshield	•

### Digging equipment

Boom: 5.7 m HD monoblock	o
Arm: 2.9 m HD	o
Arm: 2.5 m HD	o

### Machine controls

Kinematic sensor package	o
Volvo Co-Pilot 2nd display, 12.8" touchable Full HD	o
Dig Assist, Start	o
Dig Assist, 2D	o
Dig Assist, In-Field Design	o
Dig Assist, Topcon 3D-MC	o
Dig Assist, Infield-Design Advanced	o
Dig Assist, On-Board Weighing	o
Dig Assist, Laser Receiver	o
Dig Assist, Boundary Limit	o

### Service and maintenance

Swing out A/C condenser	•
Fuel filler pump	o
Jump start connector	o

### Safety and security

Travel alarm, beep / white noise	o
Flashing beacon, LED	o
Rear view camera	o
Side view camera	o
HD VSV (Volvo Smart View)	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**