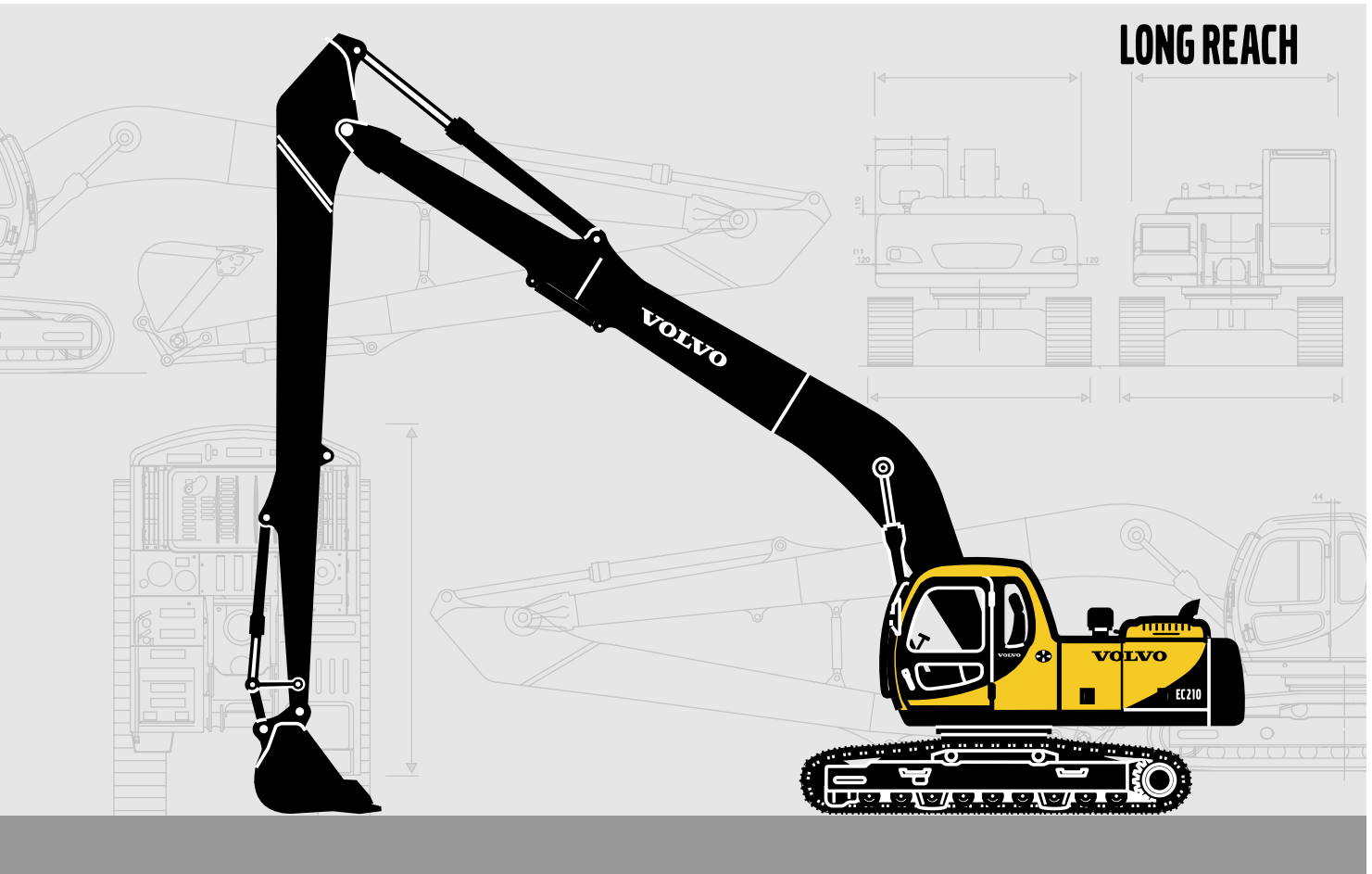


# VOLVO EXCAVATORS

## EC210/EC240 EC290



- Engine power, gross:  
EC210: 119 kW (160 hp)  
EC240: 134 kW (180 hp)  
EC290: 160 kW (215 hp)
- Operating weight:  
EC210: 22.5 t  
EC240: 26.7 t  
EC290: 31.4 t
- Buckets (SAE):  
EC210: 520 l  
EC240: 520 l  
EC290: 520, 570 l

- Low-emission, turbocharged Cummins diesel engine with direct injection
- Integrated mode selection system and electronically controlled system (ACS)
- 2 variable displacement axial piston pumps. Independent and simultaneous movements of the digging equipment are controlled by the "Automatic sensing work mode".

- Cab
  - Ergonomic environment
  - Low sound level
  - Filtered air
  - Hydraulic dampening mounts
- Developed for use in dredging, ditch cleaning, bank sloping and land leveling
- Long undercarriage for good stability
- Auxiliary hydraulic valve as standard
- Prepared for a number of optional items

# VOLVO

## SPECIFICATIONS

### • EC210

Description		Specification
Operating weight		22500 kg
Bucket capacity: SAE / CECE		520 l / 450 l
Engine	Model	Cummins B5.9-C
	Type	Water cooled 6 cylinders
	Flywheel horsepower: Net Gross	107kW (145ps / 143hp) at 1900rpm 119kW (162ps / 160hp) at 1900rpm
	Max. torque	618 N·m (63 kg·m) at 1500 rpm
	Fuel tank capacity	350 l
Hydraulic system	Type	Variable displacement axial piston pump X 2, Gear pump X 1
	System pressure	<ul style="list-style-type: none"> <li>• 31.4 / 34.3 MPa (320 / 350 kg/cm<sup>2</sup>)</li> <li>• Arm-in, bucket: 27.0 MPa (275 kg/cm<sup>2</sup>)</li> </ul>
	Max. flow rate	2 X 200 lpm
Performance	Swing speed	11.6 rpm
	Travel speed (1st / 2nd)	3.2 / 5.5 km/h
	Gradeability	35 deg (70%)
	Max. tractive effort	183.7 kN (18730 kg)
	Ground pressure	34.3 kPa (0.35 kg/cm <sup>2</sup> )
Counterweight		4700 kg

### • EC240

Description		Specification
Operating weight		26700 kg
Bucket capacity: SAE / CECE		520 l / 450 l
Engine	Model	Cummins C8.3-C
	Type	Water cooled 6 cylinders
	Flywheel horsepower: Net Gross	125kW (170ps / 168hp) at 2000rpm 134kW (182ps / 180hp) at 2000rpm
	Max. torque	750 N·m (76.5 kg·m) at 1500 rpm
	Fuel tank capacity	350 l
Hydraulic system	Type	Variable displacement axial piston pump X 2, Gear pump X 1
	System pressure	<ul style="list-style-type: none"> <li>• 31.4 / 34.3 MPa (320 / 350 kg/cm<sup>2</sup>)</li> <li>• Arm-in, bucket: 27.0 MPa (275 kg/cm<sup>2</sup>)</li> </ul>
	Max. flow rate	2 X 230 lpm
Performance	Swing speed	11.9 rpm
	Travel speed (1st / 2nd)	3.2 / 5.5 km/h
	Gradeability	35 deg (70%)
	Max. tractive effort	208.7 kN (21280 kg)
	Ground pressure	38.3 kPa (0.39 kg/cm <sup>2</sup> )
Counterweight		6400 kg

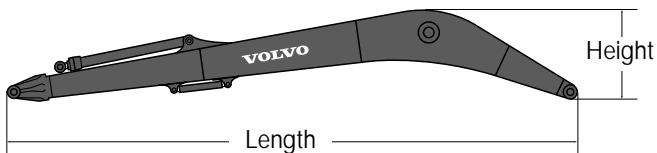
## SPECIFICATIONS

### • EC290

Description		Specification
Operating weight		31400 kg
Bucket capacity: SAE / CECE		520 / 450 l, 570 / 500 l
Engine	Model	Cummins C8.3-C
	Type	Water cooled 6 cylinders
	Flywheel horsepower: Net	147kW (200ps / 197hp) at 1900rpm
	Gross	160kW (218ps / 215hp) at 1900rpm
	Max. torque	873 N·m (89 kg·m) at 1500 rpm
Fuel tank capacity		470 l
Hydraulic system	Type	Variable displacement axial piston pump X 2, Gear pump X 1
	System pressure	<ul style="list-style-type: none"> <li>• 31.4 / 34.3 MPa (320 / 350 kg/cm<sup>2</sup>)</li> <li>• Bucket: 27.5 MPa (280 kg/cm<sup>2</sup>)</li> </ul>
	Max. flow rate	2 X 250 lpm
Performance	Swing speed	10.8 rpm
	Travel speed (1st / 2nd)	3.3 / 5.2 km/h
	Gradeability	35 deg (70%)
	Max. tractive effort	230.4 kN (23500 kg)
	Ground pressure	43.1 kPa (0.44 kg/cm <sup>2</sup> )
Counterweight		6800 kg

## DIMENSIONS

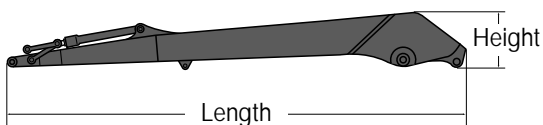
### • Boom



Description	EC210	EC240	EC290
		8.85 m boom	10.2 m boom
Length	9060 mm	10410 mm	10430 mm
Height	1540 mm	1550 mm	1620 mm
Width	670 mm	730 mm	770 mm
Weight *	2330 kg	2820 kg	3400 kg

\* Includes cylinder, piping and pin

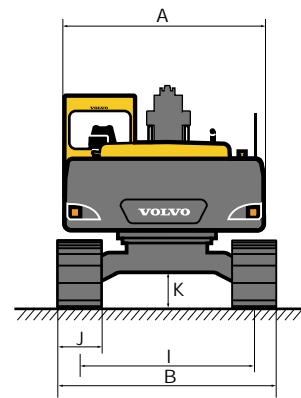
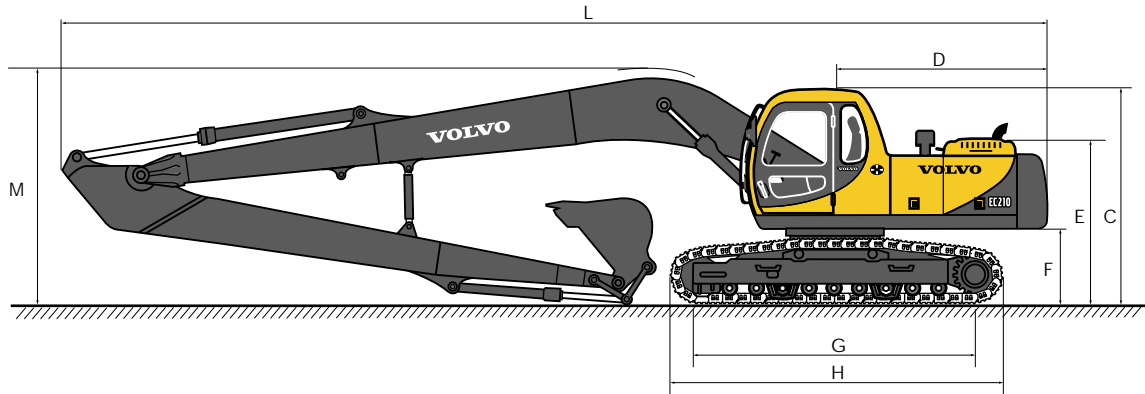
### • Arm



Description	EC210	EC240	EC290
		6.25 m arm	7.85 m arm
Length	7310 mm	8970 mm	9060 mm
Height	870 mm	1145 mm	1065 mm
Width	350 mm	380 mm	545 mm
Weight *	1170 kg	1520 kg	1790 kg

\* Includes cylinder, linkage and pin

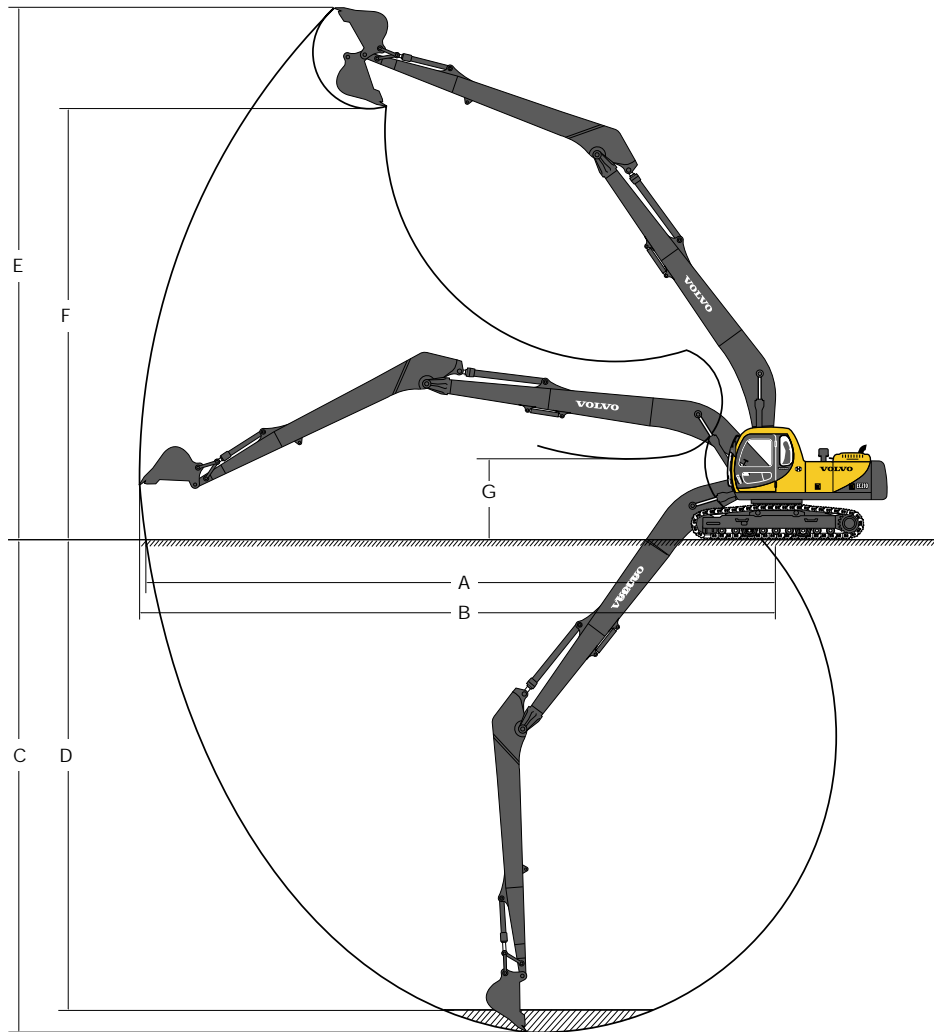
## DIMENSIONS



Model	unit	EC210	EC240	EC290
A. Overall width of upper structure	mm	2710	2840	2840
B. Overall width	mm	3190	3390	3390
C. Overall height of cab	mm	2900	2990	3030
D. Tail swing radius	mm	2850	3000	3150
E. Overall height of engine hood	mm	2275	2390	2435
F. Counterweight clearance*	mm	1025	1080	1125
G. Tumbler length	mm	3660	3850	4015
H. Track length	mm	4460	4650	4870
I. Track gauge	mm	2390	2590	2590
J. Shoe width	mm	800	800	800
K. Min. ground clearance*	mm	460	480	480
L. Overall length	mm	12810	14390	14590
M. Overall height of boom	mm	3150	3170	3340

\* Without shoe grouser

## WORKING RANGES



• Direct fit bucket



Model	unit	EC210	EC240	EC290
Boom / arm		8.85 m / 6.25 m	10.2 m / 7.85 m	10.2 m / 7.9 m
A. Max. digging reach	mm	15810	18310	18600
B. Max. digging reach on ground	mm	15710	18210	18490
C. Max. digging depth	mm	12100	14350	14790
D. Max. digging depth (8' level)	mm	11990	14230	14690
E. Max. cutting height	mm	13300	14890	14900
F. Max. dumping height	mm	10950	12580	12570
G. Min. dumping height	mm	2050	1880	1640

Digging forces with direct fit bucket:	unit	EC210	EC240	EC290	
Bucket tip radius	mm	1250	1250	1250	
Breakout force-bucket	SAE	kN / kg	68.6 / 7000	68.6 / 7000	69.1 / 7050
	ISO	kN / kg	77.8 / 7930	77.8 / 7930	80.3 / 8190
Tearout force-arm	SAE	kN / kg	44.1 / 4500	44.1 / 4500	64.2 / 6550
	ISO	kN / kg	44.7 / 4560	44.7 / 4560	65.1 / 6640
Rotation angle, bucket	°	179°	179°	179°	



## LIFTING CAPACITY (At the arm end without bucket)

*Note: For lift capacity including bucket, simply subtract actual weight of bucket from the following values.*

### EC210 (Shoe 800 mm, Counterweight 4700 kg)

 Across under-carriage  Along under-carriage	Lifting hook related to ground level	4.5 m		6 m		7.5 m		9 m		10.5 m		12 m		13.5 m		Max.reach		
		kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg
<b>Boom 8.85 m + Arm 6.25 m</b>	9 m											*1410	*1410			*740	*740	12614
	7.5 m									*2110	*2110	1940	*1990			*720	*720	13372
	6 m									*2260	*2260	1880	*2200	*1290	*1290	*720	*720	13925
	4.5 m							*2670	*2670	2320	*2470	1810	*2340	1410	*1760	*730	*730	14299
	3 m	*5940	*5940	*4330	*4330	*3510	*3510	2800	*3030	2180	*2710	1710	*2500	1360	*2090	*760	*760	14507
	1.5 m	*5880	*5880	4570	*5250	3370	*4080	2590	*3400	2030	*2960	1620	2640	1300	2180	*800	*800	14556
	0 m	*4150	*4150	4140	*5990	3090	*4570	2400	*3730	1900	3120	1530	2550	1250	2120	*860	*860	14448
	- 1.5 m	*4160	*4160	3870	*6450	2890	4840	2250	3750	1800	3010	1460	2480	1200	2080	*950	*950	14179
	- 3 m	*4680	*4680	3740	6510	2760	4710	2150	3650	1730	2940	1420	2430	1180	*1620	*1070	*1070	13740
	- 4.5 m	*5470	*5470	3700	6470	2710	4650	2110	3590	1700	2900	1400	2410			1240	*1240	13113
	- 6 m	5770	*6500	3740	6510	2720	4660	2110	3600	1700	2910	1430	*2340			1390	*1510	12270
	- 7.5 m	5950	*7830	3840	*6090	2790	4740	2160	3660	1760	2970					1640	*1960	11160
- 9 m	6220	*6910	4020	*5370	2920	*4290	2290	*3420							2090	*2890	9691	

### EC240 (Shoe 800 mm, Counterweight 6400 kg)



















 Across under-carriage  Along under-carriage	Lifting hook related to ground level	4.5 m		6 m		7.5 m		9 m		10.5 m		12 m		13.5 m		Max.reach			
		kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	Max. mm
<b>Boom 10.2 m + Arm 7.85 m</b>	12 m													*1020	*1020	*870	*870	13704	
	10.5 m														*1550	*1550	*840	*840	14703
	9 m														*1870	*1870	*830	*830	15492
	7.5 m											*2150	*2150	*2110	*2110	*820	*820	16101	
	6 m											*2310	*2310	2120	*2220	*840	*840	16551	
	4.5 m										*2700	*2700	*2510	*2510	2010	*2370	*860	*860	16855
	3 m	*6940	*6940	*5020	*5020	*4030	*4030	*3420	*3420	2970	*3020	2360	*2730	1900	*2530	*890	*890	17021	
	1.5 m	*5140	*5140	6080	*6130	4490	*4720	3460	*3880	2740	*3340	2200	*2970	1780	*2700	*940	*940	17052	
	0 m	*3500	*3500	5400	*7020	4050	*5320	3160	*4300	2520	*3640	2050	*3190	1670	2720	*1010	*1010	16949	
	- 1.5 m	*3390	*3390	4970	*6290	3720	*5790	2920	*4660	2350	3810	1920	3140	1580	2620	1060	*1100	16711	
	- 3 m	*3700	*3700	4730	*5990	3510	5870	2750	4550	2210	3660	1820	3030	1510	2550	1080	*1220	16330	
	- 4.5 m	*4220	*4220	4630	*6270	3390	5740	2640	4430	2130	3570	1750	2960	1460	2500	1140	*1390	15797	
	- 6 m	*4880	*4880	4620	*6890	3350	5700	2590	4380	2080	3530	1720	2930	1440	2480	1230	*1610	15095	
	- 7.5 m	*5670	*5670	4690	*7740	3380	5720	2600	4390	2090	3530	1730	2930	1460	2500	1370	*1950	14199	
- 9 m	*6620	*6620	4830	*7280	3460	5820	2660	4450	2140	3580	1780	2990			1600	*2500	13069		
- 10.5 m	*7790	*7790	5030	*6570	3610	*5320	2780	*4390	2250	*3630					1970	*3110	11635		
- 12 m	*6950	*6950	5330	*5500	3840	*4460	2980	*3620							2680	*3210	9763		

- Notes :
- Machine in "Fine Mode-F" (Power Boost), for lift capacities.
  - The above loads are in compliance with SAE and ISO Hydraulic Excavator Lift Capacity Standards.
  - Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
  - Rated loads marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load.

## LIFTING CAPACITY (At the arm end without bucket)

*Note: For lift capacity including bucket, simply subtract actual weight of bucket from the following values.*

### EC290 (Shoe 800 mm, Counterweight 6800 kg)

 Across under-carriage  Along under-carriage	Lifting hook related to ground level	6 m		7.5 m		9 m		10.5 m		12 m		13.5 m		15 m		Max.reach			
		 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	 kg	Max. mm	
<b>Boom 10.2 m + Arm 7.9 m</b>	13.5 m																*1150	*1150	12900
	12 m											*1620	*1620				*1080	*1080	14109
	10.5 m											*2160	*2160	*1120	*1120	*1040	*1040	15072	
	9 m											*2500	*2500	*1800	*1800	*1020	*1020	15833	
	7.5 m											2680	*2710	2120	*2220	*1010	*1010	16422	
	6 m									*2980	*2980	2580	*2840	2050	*2560	*1020	*1020	16855	
	4.5 m							*3480	*3480	3060	*3200	2440	*3000	1960	*2840	*1040	*1040	17145	
	3 m			*5150	*5150	*4360	*4360	3590	*3830	2860	*3460	2300	*3180	1860	*2970	*1080	*1080	17300	
	1.5 m	7270	*7670	5390	*5920	4160	*4870	3300	*4190	2650	*3710	2150	*3360	1750	3000	*1130	*1130	17323	
	0 m	6410	*8620	4830	*6570	3780	*5340	3030	*4520	2460	*3950	2010	3440	1650	2900	*1200	*1200	17214	
	- 1.5 m	5840	*9240	4400	*7060	3470	*5710	2800	4790	2290	3950	1880	3310	1560	2800	1210	*1290	16971	
	- 3 m	5500	*8940	4110	7340	3230	5700	2620	4600	2150	3800	1780	3200	1490	2730	1230	*1410	16588	
	- 4.5 m	5330	*9430	3930	7150	3080	5520	2490	4460	2050	3700	1710	3120	1440	2680	1280	*1580	16055	
	- 6 m	5270	*9440	3850	7050	2990	5430	2410	4380	1990	3630	1670	3080	1420	*2650	1380	*1810	15356	
	- 7.5 m	5300	*9060	3840	7040	2970	5410	2390	4350	1970	3620	1670	3080			1520	*2140	14467	
	- 9 m	5420	*8450	3900	*6810	3010	5450	2420	4390	2010	3660					1760	*2660	13349	
- 10.5 m	5620	*7530	4040	*6120	3120	*5060	2520	*4190							2150	*3400	11938		
- 12 m	5930	*6170	4280	*5030	3320	*4080									2870	*3390	10109		
- 13.5 m	*4060	*4060	*3150	*3150											*3120	*3120	7559		

- Notes :
1. Machine in "Fine Mode-F" (Power Boost), for lift capacities.
  2. The above loads are in compliance with SAE and ISO Hydraulic Excavator Lift 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.

## STANDARD EQUIPMENT

### Engine

Low-emission engine with air heater, complying with EPA (Environment Protection Association, USA) emission standards  
2-stage air filter with indicator  
Pre-cleaner  
Electric engine shut-off  
Fuel filter and water separator

### Electronic control system

Advanced control system (ACS)  
Integrated mode selection system  
Self-diagnostic system  
Machine status indication  
Engine speed sensing power control  
"Power Max" mode system  
Automatic idling system  
One-touch power boost  
Automatic engine warm-up

Safety stop/start function  
Adjustable monitor  
Master disconnect switch  
Engine restart prevention circuit  
Powerful halogen lights :  
- Frame mounted 2  
- Boom mounted 2  
Batteries  
- EC210: 2 X 12V/150Ah  
- EC240: 2 X 12V/200Ah  
- EC290: 2 X 12V/200Ah  
Start motor, 24V/7.5kW

### Hydraulic system

Automatic sensing work mode  
- Summation system  
- Boom priority  
- Arm priority  
- Swing priority  
Boom and arm flow regeneration  
Anti-rebound valve  
Boom and arm holding valves

Multi-stage filtering system  
Cylinder cushions  
Cylinder contamination seals  
Auxiliary hydraulic valve  
Straight travel circuit  
Automatic two-speed travel motors  
Hydraulic oil, ISO VG 46

### Superstructure

Access way with handrail  
Full height counterweight  
Tool storage area  
Punched metal anti-slip plates

### Cab and interior

Hydraulic dampening cab mounts  
Adjustable operator seat and control console  
Flexible antenna  
Hydraulic safety lock lever

Cab, all-weather sound suppressed, includes :  
- Ashtray  
- Cigar lighter  
- Door locks  
- Floor mat  
- Horn  
- Large storage area  
- Pull-up type front window  
- Removable lower windshield  
- Seat belt  
- Safety glass  
- Windshield wiper with intermittent feature  
Master ignition key

### Undercarriage

Hydraulic track adjusters  
Greased and sealed track chain  
Track guards

## ALTERNATIVE EQUIPMENT

### Engine

Alternator, 50A / 70A  
Block and oil pan heater: 120V, 240V  
Fuel filler pump: 35 lpm / 50 lpm / 50 lpm, with automatic shut-off

### Hydraulic system

Pilot-operated wrist control joysticks  
- Semi-long joystick  
- Control joystick, with 3 switches ea.  
- Control joystick, with 5 switches ea.

### Cab and interior

Leather seat  
Fabric seat  
Fabric seat, with heater  
Fabric seat, with heater and air suspension

### Track shoes

800 mm / 900 mm track shoes with triple grousers  
EC210: 910 mm swamp shoes  
EC240: 910 mm swamp shoes  
EC290: 900 mm swamp shoes

## OPTIONAL EQUIPMENT (Standard in certain markets)

### Engine

Fuel warmer  
Tropical kit

### Electronic control system

Extra lamps:  
- Cab mounted 3, (front 2, rear 1)  
- Counterweight mounted 1, (rear)  
Rotating warning beacon  
Travel alarm

### Hydraulic system

Hose rupture protection valve: boom  
Hydraulic oil, ISO VG 32  
Hydraulic oil, ISO VG 68

### Superstructure

Undercover (heavy duty)  
Low noise kit

### Cab and interior

Air-conditioner  
Heater  
Falling object guard (FOG)  
Cab mounted falling object protective structures (FOPS)  
Rain shield, front  
Sun shield, front  
Clear tinted roof hatch  
Stereo cassette radio (AM/FM)  
Safety mesh for front window  
Anti-vandalism kit  
Sliding rear window  
Specific key

### Undercarriage

Full track guards  
Undercover (heavy duty)

### Service

Hand lamp  
Spare parts  
Tool kit

*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.*

# VOLVO

Volvo Construction  
Equipment Group

Ref. No. 21 1 435 1605 English global  
Printed in Korea 1999.12-2 KOR  
Volvo, Seoul