

## VOLVO COMPACT EXCAVATOR

# EC55C



- **Net horsepower:**  
47.1 hp - 48.5 hp (35.1 kW - 36.2 kW)
- **Operational weight:**  
12566 lbs - 12765 lbs (5700 kg - 5790 kg)
- **Bucket capacity:**  
21 US gal - 62 US gal (80 l - 235 l)
- **Maximum dig depth:**  
12'4" - 13'3" (3750 mm - 4050 mm)

- **Spacious, ergonomically designed and quiet cab.**
- **Air conditioning as standard for more comfort.**
- **TOPS and ROPS cab for total operator safety.**

- **Direct injection diesel engine and low emissions for better environmental protection.**
- **Total Power Control hydraulic system providing independence of all movements and a high work rate.**
- **Long undercarriage for greater stability.**

**MORE CARE. BUILT IN.**



# SPECIFICATIONS

## Engine

Water-cooled Volvo 4-cylinder diesel engine. Compliant to EPA Interim Tier 4 / EU Stage IIIA environmental regulations.

<b>Model</b>	<b>D3.1D</b>
<b>Gross power, rated (ISO 9249)</b>	<b>48.5 hp (36.2 kW) @ 2100 rpm</b>
<b>Power, installed (ISO 9249)</b>	<b>47.1 hp (35.1 kW) @ 2100 rpm</b>
<b>Displacement, total</b>	<b>186 in<sup>3</sup> (3 l)</b>
<b>Maximum torque</b>	<b>142~155 lbf-ft (193~210 Nm) @ 1400 rpm ± 100 rpm</b>
<b>Bore x stroke</b>	<b>3.7 in x 4.3 in (94 mm x 110 mm)</b>

## Electrical system

<b>Rated voltage</b>	12 V
<b>Battery capacity</b>	12 V - 100 Ah x 1EA
<b>Alternator rating</b>	12 V - 55 Ah
<b>Starter motor output</b>	12 V - 3.0 kW

## Hydraulic system

Variable displacement Total Power Control hydraulic system providing total independence of all movements and of travel.

<b>Control</b>	Power-assisted hydraulic controls
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Variable displacement double pump for the equipment (boom, dipper and bucket) and travel circuits:

<b>Maximum flow</b>	<b>15.3 US gal/min (2 x 57.8 l/min)</b>
<b>Maximum operating pressure</b>	<b>3133 PSI (216 bar)</b>

Gear pump for the power assistance circuit:

<b>Maximum flow</b>	<b>3.6 US gal/min (13.7 l/min)</b>
<b>Maximum operating pressure</b>	<b>464 PSI (32 bar)</b>

Double-acting hydraulic circuit for accessories:

<b>Maximum flow</b>	<b>15.3 US gal/min (57.8 l/min)</b>
<b>Maximum operating pressure</b>	<b>3133 PSI (216 bar)</b>

2nd accessory circuit:

<b>Maximum flow</b>	<b>5.2 Us gal/min (19.6 l/min)</b>
<b>Maximum operating pressure</b>	<b>3133 PSI (216 bar)</b>

End-of-stroke cushion:

<b>On boom ram</b>	at the end of the rod extension
<b>On dipper ram</b>	on both sides
<b>On offset ram</b>	on both sides
<b>Offset ram lock</b>	on both sides

The equipment's offset ram is equipped with a balancing valve which holds the boom offset angle in the position chosen by the operator in all working conditions.

## Slewing system

Turntable slewing is provided by a radial piston hydraulic motor which directly drives (without a reduction gear) a ball internal crown wheel with remote lubrication.

<b>Slewing speed</b>	8.8 rpm
<b>Turntable braking</b>	automatic multi-disc brake
<b>Absorption of hydraulic shocks</b>	Shockless valve

## Bucket performance

<b>Breakout force</b>	<b>9302 lbf (4138 daN)</b>
<b>Tearout force</b>	<b>6393 lbf (2844 daN)</b>

## Undercarriage

The undercarriage is made up of an "X" box fabricated center part for more rigidity and of sloping side members for a better clearance of materials. The rollers and the tensioning wheels are lubricated for life.

<b>Bottom/top rollers per side</b>	5/1
<b>Track width</b>	1'4" (400 mm)
<b>Track tension</b>	by grease piston
<b>Blade (width x height)</b>	6'4" x 1'2" (1920 x 350 mm)

## Travel system

Each track is driven by an axial piston hydraulic motor equipped with two gears and an epicyclic reduction gear. Braking is provided automatically by a multiple disc brake.

<b>Travel speed (low / high)</b>	<b>1.5 / 2.8 mph (2.4 / 4.5 km/h)</b>
<b>Max. tractive force</b>	<b>9921 lbf (4413 daN)</b>

The forward movement control is automatically locked when the operator raises the left console.

## Service fill capacities

<b>Fuel tank</b>	<b>29 US gal (110 l)</b>
<b>Hydraulic system, total</b>	<b>34 US gal (134 l)</b>
<b>Hydraulic tank</b>	<b>22 US gal (84 l)</b>
<b>Engine oil</b>	<b>3 US gal (11.5 l)</b>
<b>Cooling system</b>	<b>4 US gal (16 l)</b>

## Weight

Operational weight and ground pressure:

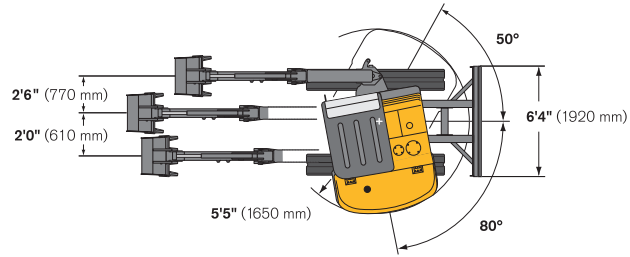
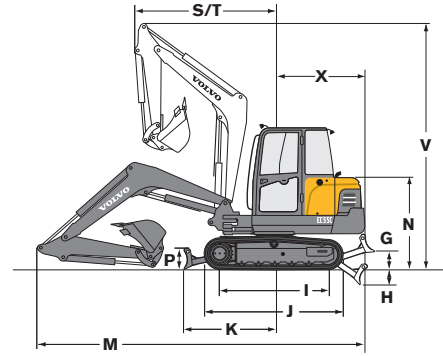
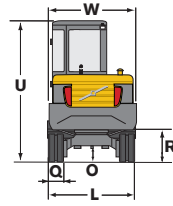
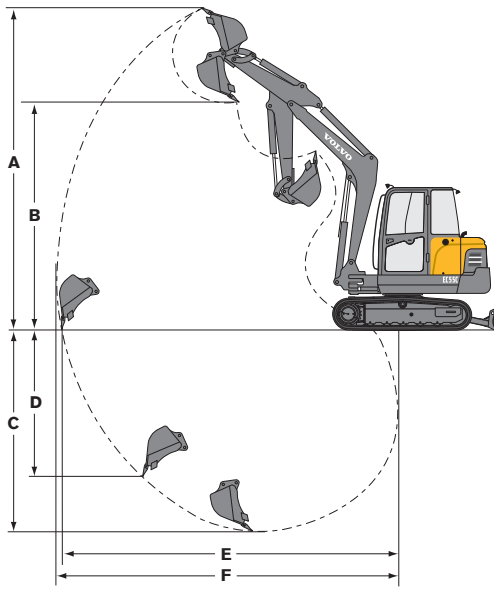
<b>Rubber Tracks 1'4" (400 mm)</b>	<b>12566 lbs (5700 kg) 5.1 PSI (0.36 kg/cm<sup>2</sup>)</b>
<b>Steel Tracks 1'3" (380 mm)</b>	<b>12765 lbs (5790 kg) 5.5 PSI (0.39 kg/cm<sup>2</sup>)</b>

## Noise level

The EC55C conforms to the 2006 European Machine Directive Noise Level (2000/14/CE) of 97 dB(A) for this class of machine.

<b>Noise level exterior (LwA)</b>	< 97 dB(A)
<b>Noise level in the cab (LpA)</b>	< 78 dB(A)

The noise levels conform to directive n°4 86/662 EEC and its amendments.



Dipper	A	B	C	D	E	F
5'3" (1600 mm)	18'8" (5680 mm)	13'7" (4140 mm)	12'4" (3750 mm)	8'6" (2590 mm)	19'7" (5960 mm)	20'0" (6100 mm)
6'3" (1900 mm)	19'3" (5870 mm)	14'2" (4330 mm)	13'3" (4050 mm)	9'5" (2860 mm)	20'6" (6250 mm)	20'12" (6390 mm)

\* Dig depth with the blade down

G	H	I	J	K	L	M	N	O
1'3" (380 mm)	1'8" (508 mm)	6'5" (1950 mm)	8'2" (2500 mm)	5'9" (1747 mm)	6'4" (1920 mm)	19'3" (5872 mm)	5'4" (1628 mm)	1'3" (380 mm)

P	Q	R	S	T	U	V	W	X
1'2" (349 mm)	1'4" (400 mm)	2'3" (690 mm)	8'2" (2480 mm)	-	8'5" (2563 mm)	14'4" (4362 mm)	6'1" (1850 mm)	5'5" (1650 mm)

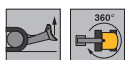
### Lifting capacities

These capacities are given for a machine without a bucket or quick-release coupling and fitted with rubber tracks.

The handling capacity is 75% of the tipping load or 87% of the hydraulic limit.

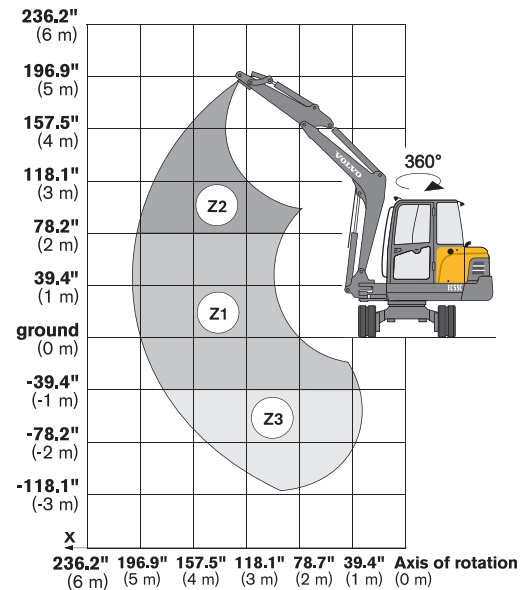
Caution: In accordance with standard EN 474-5, the machine must be fitted with a safety valve on the boom ram and with an overload indicator for handling operations.

Horizontal Range		39.3" (1 m)		78.2" (2 m)		118.1" (3 m)		157.5" (4 m)		196.9" (5 m)		Max	
		lbs	(kg)	lbs	(kg)	lbs	(kg)	lbs	(kg)	lbs	(kg)	lbs	(kg)
5'3" (1600 mm)	Z2	-	-	-	-	-	-	2359	(1070)	-	-	1675	(760)
	Z1	*5357	(*2430)	5864	(2660)	3042	(1380)	2028	(920)	1521	(690)	1433	(650)
	Z3	*9017	(*4090)	5974	(2710)	3108	(1410)	-	-	-	-	2116	(960)
6'3" (1900 mm)	Z2	-	-	-	-	-	-	2381	(1080)	1631	(740)	1499	(680)
	Z1	*4541	(*2060)	5732	(2600)	*2998	(*1360)	1984	(900)	1477	(670)	1301	(590)
	Z3	*7452	(*3380)	*5115	(*2320)	*2998	(*1360)	-	-	-	-	1808	(820)



Lifting capacity in total rotation over 360° with the blade raised.

\* hydraulic limit



236.2" (6 m) 196.9" (5 m) 157.5" (4 m) 118.1" (3 m) 78.7" (2 m) 39.4" (1 m) 0 m Axis of rotation (6 m) (5 m) (4 m) (3 m) (2 m) (1 m) (0 m)

## STANDARD EQUIPMENT

### Engine

Low-emission Volvo engine meeting EPA Interim Tier 4 / EU Stage IIIA environmental regulations.  
Two-stage air filter with blinding indicators.  
Electric heating device.  
Diesel filter and sediment chamber.  
Automatic return to idling.  
Oil sump sheet metal.  
Smooth sound dual case muffler.

### Electrical system

Maintenance-free 12 V - 100 AH battery.  
Starter motor 12 V - 2.3 kW.  
Halogen working lights (2 on the turret and 1 on the boom).  
Water-resistant electrical connectors (IP67).  
Horn.

### Undercarriage

**16"** (400 mm) width rubber tracks.  
Float blade.  
Remote lubrication of the slew ring.

### Hydraulic system

ISO power-assisted hydraulic control.  
Cylinder cushions with contamination seals.  
Total Power Control system.  
Boom anti-lowering device.  
Multiple filtration system (30 µm).  
Double-acting hydraulic circuit for accessories fitted on the boom.  
Accessory circuit and the boom offset are controlled by an electroproportional control on the right joystick.  
Progressive finger-tip control of the accessory circuit & offset.  
Control of forward and backward movement by two levers coupled to pedals

### Cab

Heating and air-conditioning.  
8 air vents.  
Tinted windows.  
Non-slip floor and grab handle for access to the driver's cab.  
Multi-adjustable, full suspension, high-back, console/seat assembly.  
"Deluxe" fabric-covered superior comfort seat (cab).  
Hinged front window.  
Removable bottom front window.  
Sliding right side window.  
Rear Mirror in cabin.  
Rubber mounting.  
Radio/cassette player with 2 speakers.  
Flexible aerial.  
Interior lighting.  
Heavy-duty travel pedals.  
Intermittent windshield wiper and windshield washer on the front window.  
Power socket.

### Instrumentation and monitoring

Monitoring and warning light for the following functions: pre-heating, engine oil pressure, water temperature, battery charge, air filter clogging.  
Internal and external fuel gauges.  
Hour meter.  
Hydraulic flow adjustment of the accessory circuits on the instrument panel.

### Handling and earthwork equipment

**9'10"** (3000 mm) long monobloc boom.  
**5'3"** (1600 mm) dipper arm.  
Remote lubrication of the offset and dipper arm cylinders.

### Safety

Device for locking the earthwork equipments controls and the travel levers when the left console is raised to gain access to driver's cab.  
Engine starting safety device: the left console must be raised to operate the starter.  
FOPS 2 (Falling Objects Protective Structure).  
ROPS 2 (Roll-Over Protective Structure)  
TOPS (Tilt-Over Protective Structure)  
Safety valve on the blade cylinder.  
Pressure accumulator on the power assistance circuit in order to be able to put the equipment on the ground if the engine is switched off.  
Window-breaker hammer (cab).  
Seat belt with visual indicator system.  
Anti-theft system integrated in the instrument panel.

### Official approval

Machine conforming to European directive 98/37/EC.  
Noise emissions in the environment conforming to directive 2000/14/EC.  
Object handling device conforming to EN 474-5 standard.  
ROPS conforming to ISO standard 3471/SAE J 1040.  
FOPS 2 conforming to ISO 3449:2005 standard.  
TOPS conforming to ISO 12117 and EN 13531 standards.  
Electromagnetic compatibility (EMC) conforming to European directive 89/336/EC and its amendments.  
Hand Arm Vibrations - Whole body Vibrations: compliant with directive 2002/44/EC: HAV < 0.5 ms<sup>2</sup> - WBV < 2.5 ms<sup>2</sup>.

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## OPTIONAL EQUIPMENT

### Handling and earthwork equipment

**6'3"** (1900 mm) Dipper arm.  
Safety valve piloted by the power assistance circuit on the boom arm cylinder with overload indicator.  
Safety valve on the dipper arm cylinder.  
Quick-release accessories coupling.  
2nd accessory circuit operated by electroproportional control on left joystick.  
Heavy-duty dipper arm.

### Engine

Electric fuel tank filling pump 9 US gal/min (35 l).

### Undercarriage

Steel tracks: **15"** (380 mm) or **18"** (500 mm).  
Angle blade.  
Wide blade: **6'6"** (2020 mm).

### Lighting

Additional front and rear working light.  
Rotating beacon.

### Environmental protection

Bio-degradable hydraulic oil: 46.

### Service and maintenance

Toolkit.

### Safety

Care Track.  
Retracting seatbelt with visual indicator (2" or 3").  
FOPS 2/FOG windshield guard.  
Right and left rear side view mirrors.

### Miscellaneous

Special customised paint (RAL specifications).  
Pilot control change valve.  
Cold weather hydraulic oil: 32.

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## ATTACHMENT OFFER

**Volvo Hydraulic Breaker HB300 Low Noise with a wide range of additional work tools.**

### New Volvo pin-on Attachment Bracket (VAB)

- Mechanical  
- Hydraulic.

**Volvo hydraulic Thumb**

### Complete range of Volvo genuine buckets

- Trenching  
- Ditching.



Volvo Construction Equipment is different. The company's products are designed, built and supported in a different way. That difference comes from our 175-year engineering heritage. A heritage of thinking first about the people who actually use the machines. About how to make them safer, more comfortable, more productive. About the environment we all share. The result of that thinking is a growing range of machines and a global support network dedicated to helping you do more. People around the world are proud to use Volvo. And we're proud of what makes Volvo different - **More care. Built in.**



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