

Volvo Construction Equipment  
Building Tomorrow



## ENVIRONMENTAL DECLARATION

# VOLVO COMPACT EXCAVATORS



# Environmental declaration

## COMPACT CRAWLER/WHEEL EXCAVATORS

Environmental characteristics below specified by the manufacturer, relate to machines leaving the manufacturers production line.  
For other technical specifications, see specification sheet and operator manual for the respective machine.

## MANUFACTURER

Volvo Compact Equipment sas  
Rue Pierre Pingon - 01300 Belley  
France

Volvo Group Korea Co.,Ltd  
1, Guehyun-dong, Changwon-si,  
Gyeongsangnam-do, Korea 642-430

Model			ECR18E	EC15E	EC18E	EC20E	ECR25D	EC27D	EC35D		
Engine type			Volvo	Volvo	Volvo	Volvo	Volvo	Volvo	Volvo		
			D0.9A	D0.9A	D0.9A	D0.9A	D1.1A	D1.1A	D1.8A	D1.7A	
Emission level according to US EPA & CARB			T4f	T4f	T4f	T4f	T4f	T4f		T4f	
Emission level within EU Directive 97/68/EC			Stage V	Stage V	Stage V	Stage V	Stage IIIA				
Engine power, 80/1269/EEC, SAE J1349, net		kW	11.8	11.8	11.8	11.8	14.8	14.8	21.5	17.2	
Metric		hp					20.1	20.1	29.2	23.4	
	Imperial	hp					19.8	19.8	28.8	23	
Engine power, ISO 9249, SAE J1349 net		kW									
	Metric	hp									
Imperial		hp									
Engine power, ISO 3046-1, SAE J1995 gross		kW	12	12	12	12	15.6	15.6	22.8	18.5	
Metric		hp	16.3	16.3	16.3	16.3	21.2	21.2	31	25.2	
	Imperial	hp	16.1	16.1	16.1	16.1	20.9	20.9	30.6	24.8	
Model			ECR35D			ECR40D		ECR50D	EC60E		
Engine type			Volvo			Volvo		Volvo	Volvo		
			D1.8A		D1.7A	D1.8A		D1.7A	D2.6A	D2.6H	
Emission level according to US EPA & CARB					T4f			T4f	T4i	Tier4f	
Emission level within EU Directive 97/68/EC			Stage IIIA			Stage IIIA		Stage IIIA		Stage V	
Engine power, ISO 3046/1, net		kW	21.5		17.2	21.5		17.2	29.7	42.7	
Metric		hp	29.2		23.4	29.2		23.4	40.4	58	
	Imperial	hp	28.8		23	28.8		23	39.8	57	
Engine power, ISO 9249, SAE J1349 net		kW									42.7
	Metric	hp									58
Imperial		hp									57
Engine power, ISO14396, SAE J1995 gross		kW	22.8		18.5	22.8		18.5	31.2	44.3	
Metric		hp	31		25.2	31		25.2	42.4	60	
	Imperial	hp	30.6		24.8	30.6		24.8	41.8	59	
Model			EW60C	EW60E	ECR88	ECR58D	ECR58D	ECR88D			
Engine type			Volvo	Volvo	Volvo	Volvo	Volvo	Volvo			
			D3.4D		D2.6H	D3.4D		D2.6A	D2.6H		
Emission level according to US EPA & CARB					Tier4f	Tier3				Tier4f	
Emission level within EU Directive 97/68/EC			Stage IIIA		Stage V	Stage IIIA		Stage IIIA	Stage IIIB		
Engine power, ISO 3046/1, net		kW	40.7		45.2	40.3		35.4	35.4		
Metric		hp	55.3		61	54.8		48.2	48.2		
	Imperial	hp	54.6		61	54.1		47.5	47.5		
Engine power, ISO 9249, SAE J1349 net		kW	40.7		45.2	40.3		35.4	35.4		
	Metric	hp	55.3		61	54.8		48.2	48.2		
Imperial		hp	54.6		61	54.1		47.5	47.5		
Engine power, ISO14396, SAE J1995 gross		kW	42.5		47.3	42.5		36.5	36.5		
Metric		hp	57.8		64	57.8		49.7	49.7		
	Imperial	hp	57.0		63	57		49	49		

## CORE VALUES

Quality, safety and environmental care are Volvo's core values. They are designed from the beginning into the product's entire service life. This includes design and engineering, material selection, manufacturing processes, use and recycling.

## MANUFACTURERS

The assembly of the complete machines takes place at one of Volvo Construction Equipment's production plants. Our production facilities are all certified according to ISO 14001.

Many of our components and parts are purchased from external suppliers. Volvo Construction Equipment works closely with these suppliers in order to safeguard the environmental requirements for purchased components and parts.

## DECLARATIONS

Upholstery and other materials in the cab do not contain mercury.

Plastics and other interior materials are fire-classed according to Volvo standard 104-0001.

Brake pads do not contain cadmium or asbestos.

The complete machine does not contain any mercury, cadmium or asbestos.

Refrigerant of the type R134a is used when this machine is equipped with air conditioning.

Contains fluorinated greenhouse gas R134a, Global Warming Potential 1.430 t CO<sub>2</sub>-eq.

## PAINT AND SURFACE TREATMENT

In order to reduce solvent emissions, the machines are painted using high solid paints. To reduce consumption of water and chemicals, cleaning and recirculation takes place during the pre-treatment processes in the factories.

Specification of paint				
Main components	Paint type	Heavy metals	Chlorine	Pre-treatment
Frame	High solid two components	no	no	Phosphatised
Cab	High solid two components	no	no	Water and alkaline wash
Arm with bushings	High solid two components	no	no	Phosphatised
Boom with equipment	High solid two components	no	no	Phosphatised

# Environmental declaration

## ENGINE/EMISSIONS

The engine emission value is meeting with the limit value according to according to EU Directive 97/68/EC 2010/26/EU, Stage IIIA, Stage IIIB

The engine emission value is meeting with the limit value according to US requirements: US EPA Tier 3, Tier4 and CARB US EPA. Exhaust emissions are measured as specific emissions in g/ kWh according to ISO 8178-1 and ISO 8178-4, cycle C1.

A family engine (parent engine) is certified within an engine family.

The parent engine is the engine with the highest fuel injection volume at maximum torque. Engines with the same design or similar technology will then belong to this family. Therefore, the values required by law are only given for the parent engine.

\*Emission standards are applied to each machine in accordance with the emission requirements.

The Load Sensing-System contributes to lower fuel consumption through a demand-controlled flow of hydraulic oil.

Emission levels	NOx (g/kWh)	HC (g/kWh)	PM (g/kWh)	CO (g/kWh)	Power range (kW)
	Nox+HC (g/kWh)				
EU Directive 2010/26/EU, Stage IIIB	4.7		0.025	5	37 ≤ P < 56
EU Directive 2010/26/EU, Stage IIIB	3.3	0.19	0.025	5	56 ≤ P < 75
EU Directive 2010/26/EU, Stage IIIA	7.5		0.6	5.5	19 ≤ P < 37
EU Directive 2010/26/EU, Stage IIIA	4.7		0.4	5	37 ≤ P < 75
Emission levels	NOx (g/kWh)	HC (g/kWh)	PM (g/kWh)	CO (g/kWh)	Power range (kW)
	Nox+NMHC (g/kWh)				
US EPA Tier 4+ CARB	7.5		0.4	6.6	8 ≤ P < 19
US EPA Tier 4+ CARB	4.7		0.03	5.5	19 ≤ P < 37
US EPA Tier 4+ CARB	4.7		0.03	5	37 ≤ P < 56
US EPA Tier 4+ CARB	0.4	0.19	0.02	5	56 ≤ P < 130
US EPA Tier 3+ CARB	7.5		0.6	5.5	19 ≤ P < 37
US EPA Tier 3+ CARB	4.7		0.4	5	37 ≤ P < 75
Emission levels	NOx (g/kWh)	HC (g/kWh)	PM (g/kWh)	CO (g/kWh)	Power range (kW)
	Nox+NMHC (g/kWh)				
EU Stage V	7.5		0.4	6.6	8 ≤ P < 19
EU Stage V	4.7		0.015	5.5	19 ≤ P < 37
EU Stage V	4.7		0.015	5.0	37 ≤ P < 56
EU Stage V	0.4	0.19	0.015	5.0	56 ≤ P < 130

## SOUND LEVELS

Noise emission of the machine is tested by International Standards.

Model	ECR18E	EC15E	EC18E	EC20E	ECR25D
External sound power level, dB(A)	93	93	93	93	93
Internal sound power level, dB(A)	78	78	78	78	78
Model	EC27D	EC35D	ECR35D	ECR40D	
External sound power level, dB(A)	93	93	93	93	
Internal sound power level, dB(A)	78	78	78	78	
Model	ECR50D	EC60E	EW60C		
External sound power level, dB(A)	96	97	97		
Internal sound power level, dB(A)	78	78	78		
Model	EW60E	ECR88	ECR58D	ECR88D	
External sound power level, dB(A)	97	98	97	97	
Internal sound power level, dB(A)	78	73	73	73	

## OPERATOR'S ENVIRONMENT (ENCLOSED CAB)

Incoming air for the cab first passes through a pre-filter which separates coarser particles, and then through the main filter in to the cab. Up to 90% of all air can be recirculated through the main filter.

This creates an overpressure in the cab, which results in a cleaner work environment.

## SERVICE

To facilitate draining and to reduce the risk of spilling engine oil and hydraulic oil, there are special hoses supplied with each machine. For bleeding air from axles, transmission and hydraulic oil tank there is a breather filter to reduce appearance of any oil mist. The hydraulic tank as well as front and rear axle has a protective valve in the breather filter, minimizing leakage in case of machine turn-over/rollover.

The fuel tank cap seals tightly to prevent fuel leaks in case of machine turn-over/rollover.

For service intervals and other maintenance, see applicable operator's manuals for each respective machine model. All engines have a system for cleaning the crankcase ventilation's emissions of oil particles.

## OILS AND FLUIDS

Ethylene glycol coolant is filled at the factory.

Biologically degradable oil for the hydraulic system is available as an option. We recommend the following oils; these are also available as options. Besides we refer to the respective operator's manual.

# Environmental declaration

## RECYCLING

Volvo Compact Excavators are designed from the beginning for recycling at the end of their useful life cycle. Materials can be reused in new Volvo Construction Equipment or other products. Most of our plastic parts are marked for recycling according to Volvo Standards 5052,41, 5042,411 as well as 5052,412. Materials included in the machine are distributed according to the table below. Weights are approximate. The calculation of the weights is based on defined machines. Variations are caused by different equipment. These material fractions can be recycled (material and energy recycling) where such recycling possibilities are available.

Machine model	Units (rounded)	ECR18E	EC15E	EC18E	EC20E	ECR25D	EC27D	EC35D	ECR35D
Steel and iron	kg	1318	1217	1391	1546	2010	2150	2789	2769
Lead (batteries)	kg	13	13	13	13	18	18	18	18
Other non-iron metals	kg	0	0	0	0	0	0	0	0
Glass	kg	0	0	35	35	35	35	51	51
Polymer and rubber	kg	34	36	36	36	44	44	58	58
Tires	kg	0	0	0	0	0	0	0	0
Oil and fluids	kg	50	48	50	52	66	66	138	138
Others Non-recyclable	kg	205	156	205	208	163	206	246	246
Total recyclable material	kg	1458	1340	1568	1725	2 270	2 444	3 204	3 194
Total weight of machine (MUC*)	kg	1620	1470	1730	1890	2 433	2 650	3 450	3 440
Steel and iron	lbs	2,905	2,683	3,066	3,408	4,431	4,740	6,149	6,105
Lead (batteries)	lbs	29	29	29	29	40	40	40	40
Other non-iron metals	lbs	0	0	0	0	0	0	0	0
Glass	lbs	0	0	77	77	80	77	110	110
Polymer and rubber	lbs	75	79	79	79	100	97	130	130
Tires	lbs	0	0	0	0	0	0	0	0
Oil and fluids	lbs	110	106	110	115	145	145	304	304
Others Non-recyclable	lbs	452	344	452	459	360	454	542	542
Total recyclable material	lbs	3,214	2,953	3,456	3,802	5,010	5,388	7,064	7,042
Total weight of machine (MUC*)	lbs	3,571	3,241	3,814	4,167	5,364	5,842	7,606	7,584
Recycling quota	%	90	91	91	91	93	92	93	93

\* MUC = Most Usual Configuration

Machine model	Units (rounded)	ECR40D	ECR50D	EC60E	EW60C	EW60E
Steel and iron	kg	3129	4 269	4 990	4 960	4 976
Lead (batteries)	kg	18	18	25	25	25
Other non-iron metals	kg	0	0	63	108	91
Glass	kg	51	51	52	49	53
Polymer and rubber	kg	58	58	224	221	353
Tires	kg	0	0	0	139	139
Oil and fluids	kg	138	123	166	173	166
Others Non-recyclable	kg	246	336	302	40	33
Total recyclable material	kg	3 554	4 594	5 521	5 675	5 803
Total weight of machine (MUC*)	kg	3 800	4 930	5 823	5 715	5 836
Steel and iron	lbs	6,898	9,412	11,000	10,940	10,970
Lead (batteries)	lbs	40	40	60	60	55
Other non-iron metals	lbs	0	0	140	240	201
Glass	lbs	110	110	110	110	117
Polymer and rubber	lbs	130	130	490	490	778
Tires	lbs	0	0	0	310	306
Oil and fluids	lbs	304	270	370	380	366
Others Non-recyclable	lbs	542	740	670	90	73
Total recyclable material	lbs	7,835	10,130	12,170	12,510	12,793
Total weight of machine (MUC*)	lbs	8,378	10,870	12,840	12,600	12,866
Recycling quota	%	94	93	95	99	99

\* MUC = Most Usual Configuration

Machine model	Units (rounded)	ECR88	ECR58D (T3)	ECR58D (T4)	ECR88D
Steel and iron	kg	7 327	4 732	4 746	7 414
Lead (batteries)	kg	25	25	25	25
Other non-iron metals	kg	72	66	77	92
Glass	kg	44	44	44	44
Polymer and rubber	kg	557	189	192	230
Tires	kg	0	0	0	0
Oil and fluids	kg	191	131	131	194
Others Non-recyclable	kg	48	280	280	380
Total recyclable material	kg	8 216	5 186	5 214	7 999
Total weight of machine (MUC*)	kg	8 264	5 466	5 494	8 379
Steel and iron	lbs	16,160	10,430	10,460	16,350
Lead (batteries)	lbs	60	60	60	60
Other non-iron metals	lbs	160	150	170	200
Glass	lbs	100	100	100	100
Polymer and rubber	lbs	1,23	420	420	510
Tires	lbs	0	0	0	0
Oil and fluids	lbs	420	290	290	430
Others Non-recyclable	lbs	110	620	620	840
Total recyclable material	lbs	18,120	11,440	11,500	17,640
Total weight of machine (MUC*)	lbs	18,220	12,060	12,120	18,480
Recycling quota	%	99	95	95	95

\* MUC = Most Usual Configuration

## PRODUCER RESPONSIBILITY

In most countries today, there is a producer responsibility for our products, applicable to components such as batteries, tires etc. There are special regulations for these components. For further information, please contact your dealer.

Machine model

Delivery date

Machine's serial number

Engine Type

Engine's manufacturing number

Place for stamp

**VOLVO**

**Volvo Construction Equipment**

[volvoce.com](http://volvoce.com)