



Volvo Construction Equipment

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		EC15D	EC18D	EC20D	ECR25D	EC27C	EC27D	EC35C	EC35D	
Engine type		Volvo	Volvo	Volvo	Volvo	Volvo	Volvo	Volvo	Volvo	
		D0.9A	D0.9A	D0.9A	D1.1A	D1.6D	D1.1A	D2.2D	D1.8A	D1.7A
Emission level according to US EPA & CARB		T4f	T4f	T4f	T4f	T4i	T4f	T4i		T4f
Emission level within EU Directive 97/68/EC					Stage IIIA		Stage IIIA		Stage IIIA	
Engine power, ISO 3046/1, net	kW	11.2	11.2	11.2	14.8	36.2	14.8	26	21.5	17.2
	Metric hp	15.2	15.2	15.2	20.1	26.8	20.1	35.4	29.2	23.4
	Imperial hp	15	15	15	19.8	26.4	19.8	34.9	28.8	23
Engine power, ISO 9249, SAE J1349 net	kW									
	Metric hp									
	Imperial hp									
Engine power, ISO14396, SAE J1995 gross	kW	12	12	12	15.6		15.6		22.8	18.5
	Metric hp	16.3	16.3	16.3	21.2		21.2		31	25.2
	Imperial hp	16.1	16.1	16.1	20.9		20.9		30.6	24.8
Model		ECR35D		ECR40D		ECR50D	EC55C	EC55C	EC60C	EC60E
Engine type		Volvo		Volvo		Volvo	Volvo	Volvo	Volvo	Volvo
		D1.8A	D1.7A	D1.8A	D1.7A	D2.6A	D3.1D	D3.4D	D3.1D	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 IIIA	Stage IIIA	Stage IIIA	Stage IIIB
Engine power, ISO 3046/1, net	kW	21.5	17.2	21.5	17.2	29.7	35.1	37.5	35.1	42.7
	Metric hp	29.2	23.4	29.2	23.4	40.4	47.8	51	47.8	58
	Imperial hp	28.8	23	28.8	23	39.8	47.1	50.3	47.1	57
Engine power, ISO 9249, SAE J1349 net	kW						35.1	37.5	35.1	42.7
	Metric hp						47.8	51	47.8	58
	Imperial hp						47.1	50.3	47.1	57
Engine power, ISO14396, SAE J1995 gross	kW	22.8	18.5	22.8	18.5	31.2	36.2	39	36.2	44.3
	Metric hp	31	25.2	31	25.2	42.4	49.3	53.1	49.3	60
	Imperial hp	30.6	24.8	30.6	24.8	41.8	48.6	52.3	48.6	59
Model		EW60C	EW60E	ECR58	ECR88	ECR58D	ECR58D	ECR88D		
Engine type		Volvo	Volvo	Volvo	Volvo	Volvo	Volvo	Volvo		
		D3.4D	D2.6H	D3.1D	D3.4D	D2.6A	D2.6H	D2.6H		
Emission level according to US EPA & CARB		Tier4f		Tier3	Tier3		Tier4f	Tier4f		
Emission level within EU Directive 97/68/EC		Stage IIIA	Stage IIIB	Stage IIIA	Stage IIIA	Stage IIIA		StageIIIB		
Engine power, ISO 3046/1, net	kW	40.7	45.2	34.6	40.3	35.4	35.4	41.4		
	Metric hp	55.3	61	47.1	54.8	48.2	48.2	56.3		
	Imperial hp	54.6	61	46.4	54.1	47.5	47.5	55.6		
Engine power, ISO 9249, SAE J1349 net	kW	40.7	45.2	34.6	40.3	35.4	35.4	41.4		
	Metric hp	55.3	61	47.1	54.8	48.2	48.2	56.3		
	Imperial hp	54.6	61	46.4	54.1	47.5	47.5	55.6		
Engine power, ISO14396, SAE J1995 gross	kW	42.5	47.3	35.9	42.5	36.5	36.5	43		
	Metric hp	57.8	64	48.8	57.8	49.7	49.7	58.5		
	Imperial hp	57.0	63	48.2	57	49	49	57.7		

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 CO₂-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, Tier4i 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 4i+ CARB	4.7		0.03	5.5	19 ≤ P < 37
US EPA Tier 4i+ CARB	4.7		0.03	5	37 ≤ P < 56
US EPA Tier 4i+ 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

SOUND LEVELS

Noise emission of the machine is tested by International Standards.

Model	EC15D	EC18D	EC20D	ECR25D	EC27C
External sound power level, dB(A)	93	93	93	93	94
Internal sound power level, dB(A)	78	78	78	78	78
Model	EC27D	EC35C	EC35D	ECR35D	ECR40D
External sound power level, dB(A)	93	96	93	93	93
Internal sound power level, dB(A)	78	78	78	78	78
Model	ECR50D	EC55C	EC60C	EC60E	EW60C
External sound power level, dB(A)	96	97	97	97	97
Internal sound power level, dB(A)	78	78	78	78	78
Model	EW60E	ECR58	ECR88	ECR58D	ECR88D
External sound power level, dB(A)	97	97	98	97	97
Internal sound power level, dB(A)	78	73	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)	EC15D	EC18D	EC20D	ECR25D	EC27C	EC27D	EC35C	EC35D	ECR35D
Steel and iron	kg	1 297	1 468	1 601	2010	2 225	2150	2 952	2789	2769
Lead (batteries)	kg	13	13	13	18	18	18	18	18	18
Other non-iron metals	kg	0	0	0	0	0	0	0	0	0
Glass	kg	0	35	35	35	51	35	51	51	51
Polymer and rubber	kg	39	39	40	44	54	44	58	58	58
Tires	kg	0	0	0	0	0	0	0	0	0
Oil and fluids	kg	44	44	47	66	104	66	108	138	138
Others Non-recyclable	kg	97	109	132	163	204	206	243	246	246
Total recyclable material	kg	1 443	1 651	1 808	2 270	2 586	2 444	3 347	3 204	3 194
Total weight of machine (MUC*)	kg	1 570	1 790	1 960	2 433	2 790	2 650	3 590	3 450	3 440
Steel and iron	lbs	2,860	3,240	3,530	4,431	4,910	4,740	6,510	6,149	6,105
Lead (batteries)	lbs	30	30	30	40	40	40	40	40	40
Other non-iron metals	lbs	0	0	0	0	0	0	0	0	0
Glass	lbs	0	80	80	80	110	77	110	110	110
Polymer and rubber	lbs	90	90	90	100	120	97	130	130	130
Tires	lbs	0	0	0	0	0	0	0	0	0
Oil and fluids	lbs	100	100	100	145	230	145	240	304	304
Others Non-recyclable	lbs	210	240	290	360	450	454	540	542	542
Total recyclable material	lbs	3,180	3,640	3,990	5,010	5,700	5,388	7,380	7,064	7,042
Total weight of machine (MUC*)	lbs	3,462	3,947	4,321	5,364	6,150	5,842	7,920	7,606	7,584
Recycling quota	%	93	93	93	93	93	92	93	93	93

* MUC = Most Usual Configuration

Machine model	Units (rounded)	ECR40D	ECR50D	EC55C	EC60C	EC60E	EW60C	EW60E
Steel and iron	kg	3129	4 269	4 834	5 108	4 990	4 960	4 976
Lead (batteries)	kg	18	18	25	25	25	25	25
Other non-iron metals	kg	0	0	76	77	63	108	91
Glass	kg	51	51	49	49	52	49	53
Polymer and rubber	kg	58	58	204	211	224	221	353
Tires	kg	0	0	0	0	0	139	139
Oil and fluids	kg	138	123	169	169	166	173	166
Others Non-recyclable	kg	246	336	298	28	302	40	33
Total recyclable material	kg	3 554	4 594	5 356	5 638	5 521	5 675	5 803
Total weight of machine (MUC*)	kg	3 800	4 930	5 654	5 666	5 823	5 715	5 836
Steel and iron	lbs	6,898	9,412	10,660	11,260	11,000	10,940	10,970
Lead (batteries)	lbs	40	40	60	60	60	60	55
Other non-iron metals	lbs	0	0	170	170	140	240	201
Glass	lbs	110	110	110	110	110	110	117
Polymer and rubber	lbs	130	130	450	470	490	490	778
Tires	lbs	0	0	0	0	0	310	306
Oil and fluids	lbs	304	270	370	370	370	380	366
Others Non-recyclable	lbs	542	740	660	60	670	90	73
Total recyclable material	lbs	7,835	10,130	11,810	12,430	12,170	12,510	12,793
Total weight of machine (MUC*)	lbs	8,378	10,870	12,470	12,490	12,840	12,600	12,866
Recycling quota	%	94	93	95	100	95	99	99

* MUC = Most Usual Configuration

Machine model	Units (rounded)	ECR58	ECR88	ECR58D (T3)	ECR58D (T4)	ECR88D
Steel and iron	kg	4 777	7 327	4 732	4 746	7 414
Lead (batteries)	kg	25	25	25	25	25
Other non-iron metals	kg	76	72	66	77	92
Glass	kg	45	44	44	44	44
Polymer and rubber	kg	455	557	189	192	230
Tires	kg	0	0	0	0	0
Oil and fluids	kg	136	191	131	131	194
Others Non-recyclable	kg	48	48	280	280	380
Total recyclable material	kg	5 514	8 216	5 186	5 214	7 999
Total weight of machine (MUC*)	kg	5 562	8 264	5 466	5 494	8 379
Steel and iron	lbs	10,530	16,160	10,430	10,460	16,350
Lead (batteries)	lbs	60	60	60	60	60
Other non-iron metals	lbs	170	160	150	170	200
Glass	lbs	100	100	100	100	100
Polymer and rubber	lbs	1	1,23	420	420	510
Tires	lbs	0	0	0	0	0
Oil and fluids	lbs	300	420	290	290	430
Others Non-recyclable	lbs	110	110	620	620	840
Total recyclable material	lbs	12,160	18,120	11,440	11,500	17,640
Total weight of machine (MUC*)	lbs	12,260	18,220	12,060	12,120	18,480
Recycling quota	%	99	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 Construction Equipment

www.volvoce.com