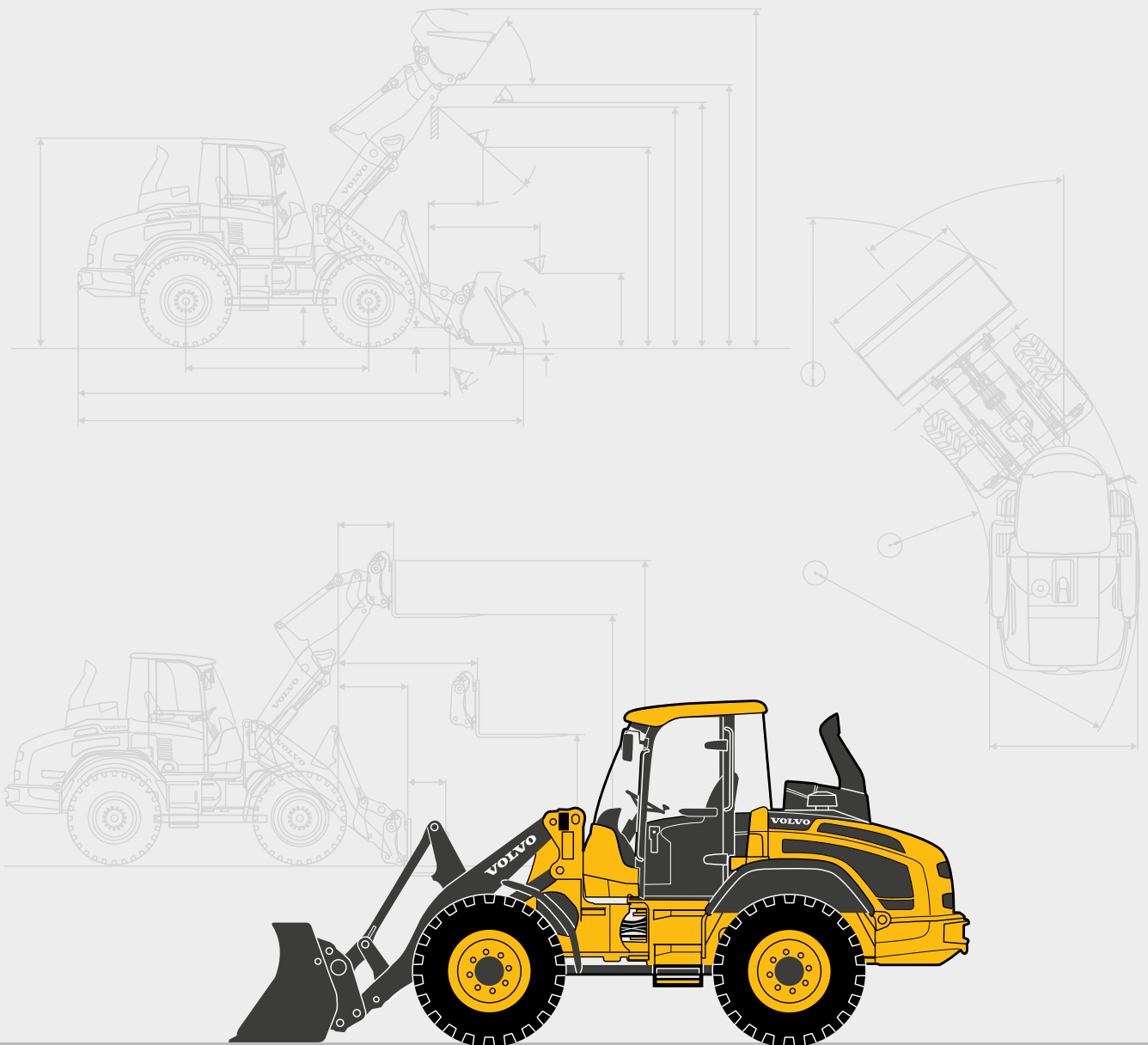




VOLVO COMPACT WHEEL LOADERS

Environmental Declaration



Environmental Declaration

Volvo Compact Wheel Loaders

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

Manufacturer:

Volvo Construction Equipment Germany GmbH
54329 Konz
Germany

Model	L20F	L20H	L25F	L25H	L28F	L30B
Engine type, Net power, ISO 9249 / SAE J1349, netto	D3.1A	D2.6M	D3.1A	D2.6M	D3.1A	D3.6DCCE3
kW	35.8	47	35.8	47	35.8	52.0
Metric hp	48	64	48	64	48	70.7
Imperial hp	48.7	62	48.7	62	48.7	69.7

Transmission: Hydrostatic transmission, full powershift under load

Model	L35B	L30G	L35G	L45H	L50F	L50H
Engine type, Net power, ISO 9249 / SAE J1349, netto	D3.6DCDE3	D3.3M or D3.3H	D3.3M or D3.3H	D4J	D5DCBE3	D4J
kW	59.3	55.4	55.4	75	87.0	87
Metric hp	80.6	75	75	102	117.0	118
Imperial hp	79.5	73	73	99	116.7	115

Transmission: Hydrostatic transmission, full powershift under load

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 5031,1. (104-0001)

Brake pads do not contain mercury, cadmium or asbestos.

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

If the machine is equipped with air conditioning (option), refrigerant type R134A (0.5 – 1.8 kg/1.1 – 4.0 lb) is used.

Paint and Surface Treatment

In order to reduce solvent emissions, the machines are painted using (high solid) powder paints and water-based 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
Rear frame	2K Water-based	no	no	Blasting
Cab	Powder	---	---	Zinc-nickel-manganate-phosphatizing
Front frame & lifting frame	Powder	no	no	Blasting
Axles and transmission	2K Water-based	no	no	Blasting

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Engine/emissions Tier 3/ Stage IIIA

at official testing according to EU Directive 97/68EC, stage III A
according to USA requirements: US EPA Tier 3.

In order to achieve the above legal requirements, no after-treatment of exhausts is required (catalytic converter, particle filter, etc.). 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.

Legal requirements for Tier 3/Stage IIIA exhaust emissions

L20F, L25F, L28F, L30B, L35B, L50F

PM	HC + NOx	CO	Power range (kW)
0.6	7.5	5.5	> 19 – ≤ 37
0.4	4.7	5.0	> 56 – ≤ 75
0.3	4.0	5.0	> 75 – ≤ 130

Exhaust emissions' legal requirements given in g/kWh

Engine/emissions Tier 4f/ Stage IIIB

The engine is certified through official testing according to EU Directive 97/68/EC, stage IIIB

The engine is certified according to US requirements: US EPA and CARB Tier 4f.

To comply with the regulated PM-levels, a DPF (Diesel Particulate Filter) and / or a DOC (Diesel Oxidation Catalyst) are used as exhaust aftertreatment system. Exhaust emissions are measured as specific emissions in g/kWh according to NRSC and NRTC for EU as well as RMC (C1) and NRTC for US. All engines fulfil the legal requirements as outlined below.

Legal requirements for US EPA and CARB Tier 4f exhaust emissions

L20H, L25H, L30G, L35G

PM	HC + NOx	CO	Power range (kW)
0.03	4.7	5.0	> 37 – ≤ 56

Exhaust emissions' legal requirements given in g/kWh

Legal requirements for Stage IIIB exhaust emissions

L20H, L25H, L30G, L35G

PM	HC + NOx	CO	Power range (kW)
0.025	4.7	5.0	> 37 – ≤ 56

Exhaust emissions' legal requirements given in g/kWh

Engine/emissions Tier 4f/ Stage V

The engine is certified through official testing according to EU Regulation 2016/1628, stage V.

The engine is certified according to US requirements: US EPA and CARB Tier 4f.

To comply with the regulated PM-levels, a DPF (Diesel Particulate Filter) is used as exhaust aftertreatment system. Exhaust emissions are measured as specific emissions in g/kWh according to NRSC and NRTC for EU as well as RMC (C1) and NRTC for US. All engines fulfil the legal requirements as outlined below.

Legal requirements for US EPA and CARB Tier4f exhaust emissions

L45H, L50H

PM	NMHC	NOx	CO	Power range (kW)
0.02	0.19	0.4	5.0	> 56 – ≤ 130

Legal requirements for Stage V exhaust emission regulation

L30G, L35G (D3.3M engine), L45H, L50H

PM	HC	NOx	CO	PN (1xkW)	Power Range
0.015	4.7		5.0	1x1012	> 37 - ≤ 56
0.015	0.19	0.4	5.0	1x1012	> 56 - ≤ 130

Exhaust emissions' legal requirements given in g/kWh

Sound levels

If the machine is specified for sale within the EU, it is certified according to EU Directive 2000/14/EC, (external sound power level). A decal with external sound power level is found on the machine. For further information about sound levels please see the operator's manual.

Our machines are available with the environmental label "Blue Angel" (optional). They have a very low sound level.

Model	L20F	L20H	L25F	L25H	L28F	L30B
External sound power level dB(A)	99	99	99	99	99	100
Internal sound power level dB(A)	74	75	75	75	75	76
Model	L35B	L30G	L35G	L45H	L50F	L50H
External sound power level dB(A)	102	99	99	102	102	102
Internal sound power level dB(A)	74	75	75	70 (68 opt)	70	70 (68 opt)

Operator's environment

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 oil; this is also available as option. Besides we refer to the respective operator's manual.

- Volvo Biodegradable Hydraulic Oil

Tires

Tires without high-aromatic oils (HA-oils) are available from our suppliers

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Recycling

Volvo Compact Wheel Loaders 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. According to our own calculations 95% of the machine's weight is recyclable. Most of our plastic parts are marked for recycling according to Volvo Standards 5052,41, 5042,411 as well as 5052,412.

Recycling

Materials included in the machine are distributed according to the table below. Weights are approximate:

Model	Units (rounded)	L20F	L25F	L28F	L30B	L35B	L50F
Steel and iron	kg	3 685	4 150	4670	4 680	5 410	8 010
Lead (batteries)	kg	17	17	17	17	17	24
Other non-iron metals	kg	32	32	32	36	36	55
Glass	kg	34	34	34	54	54	60
Polymer and rubber	kg	129	129	129	135	135	200
Tires	kg	140	208	212	256	276	444
Oil	kg	74	74	74	93	93	230
Total	kg	4 110	4 643	5168	5 271	6 021	9 023
Total weight of machine	kg	4 300	4800	5400	5 500	6 250	9 400
Steel and iron	lb	8,122	9,147	10,296	10,315	11,924	17,654
Lead (batteries)	lb	37	37	37	37	37	53
Other non-iron metals	lb	71	71	71	79	79	121
Glass	lb	75	75	75	119	119	121
Polymer and rubber	lb	284	284	284	298	298	441
Tires	lb	309	458	467	564	608	979
Oil	lb	163	163	163	205	205	507
Total	lb	9,058	10,233	11,393	11,617	13,270	19,887
Total weight of machine	lb	9,477	10,579	11,905	12,122	13,775	20,717
Recycling quota	%	95.6	96.7	95.7	95.8	96.4	96

Model	L20H		L25H	
	kg	lb	kg	lb
Fluids, oils & chemicals	140	309	140	309
Lead batteries	22	49	22	49
Filters, oil filters (engine (oil and fuel), hydraulic, transmission)	4	9	4	9
Tires	320	705	320	705
Bucket	270	595	300	661
Catalytic converters	6	13	6	13
Engine	197	434	197	434
Hydraulic components	135	298	135	298
Cab (incl seat, door, windows, w/o glass)	350	772	350	772
Glass	30	66	30	66
Boom (incl tip arm, tip rod, levers, attachment bracket)	360	794	360	794
Counterweight	354	780	354	780
Steel & Iron	2 123	4,680	2 537	5,593
Copper	30	66	30	66
Aluminium	35	77	35	77
Bronze bushings	6	13	6	13
Polymer materials & rubber (excl hydraulic hoses)	50	110	50	110
Energy recoverable non-metallic materials, mTe	20	44	20	44
Other	60	132	60	132
Total shipping mass*, ms	4 512	9,946	4 956	10,925
Recyclability rate	98 %		98 %	
Recoverability rate	99 %		99 %	

* Varies depending on equipment, e.g., tires and bucket.

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.

These material fractions can be recycled (material and energy recycling) where such recycling possibilities are available.

Model	Units (rounded)	L30G	L35G	L35G*	L45H	L50H
Steel and iron	kg	4 600	5 350	5 180	7 100	7 830
Lead (batteries)	kg	17	17	17	56	56
Other non-iron metals	kg	59	59	59	95	95
Glass	kg	54	54	54	69	69
Polymer and rubber	kg	135	135	135	200	200
Tires	kg	256	276	276	344	444
Fluids, Oil & chemicals	kg	93	93	93	326	326
Other	kg	55	55	55	405	405
Total	kg	5 269	6 039	5 869	8 190	9 020
Total weight of machine	kg	5 490	6 290	6 120	8 595	9 425
Steel and iron	lb	10,141	11,795	11,420	15,653	17,262
Lead (batteries)	lb	37	37	37	123	123
Other non-iron metals	lb	130	130	130	209	209
Glass	lb	119	119	119	152	152
Polymer and rubber	lb	198	298	298	441	441
Tires	lb	564	608	608	758	979
Fluids, Oil & chemicals	lb	205	205	205	719	719
Other	lb	121	121	121	893	893
Total	lb	11,616	13,314	12,939	18,056	19,885
Total weight of machine	lb	12,100	13,870	13,492	18,949	20,778
Recycling quota	%	96	96	96	95	95

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.

* L35G produced as from mid-2016 with a choice of either D3.3M or D3.3H engine.

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, contact your dealer.

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.

Machine model: _____ Place for stamp

Delivery date: _____

Machine's serial number: _____

Engine Type: _____

Engine's manufacturing number: _____

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