

L110H, L120H

VOLVO WHEEL LOADERS 18.0-21.6 t / 39,683-47,620 lbs 259-276 hp



A PASSION FOR PERFORMANCE.

At Volvo Construction Equipment, we're not just coming along for the ride. Developing products and services that raise productivity – we are confident we can lower costs and increase profits for industry experts. Part of the Volvo Group, we are passionate about innovative solutions to help you work smarter – not harder.

Helping you to do more.

Doing more with less is a trademark of Volvo Construction Equipment. High productivity has long been married to low energy consumption, ease of use and durability. When it comes to lowering life-cycle costs, Volvo is in a class of its own.

Designed to fit your needs.

There is a lot riding on creating solutions that are suited to the particular needs of different industry applications. Innovation often involves high technology – but it doesn't always have to. Some of our best ideas have been simple, based on a clear and deep understanding of our customers' working lives.





You learn a lot in 180 years.

Over the years, Volvo has advanced solutions that have revolutionized the use of construction equipment. No other name speaks Safety louder than Volvo. Protecting operators, those around them and minimizing our environmental impact are traditional values that continue to shape our product design philosophy.

We're on your side.

We back the Volvo brand with the best people. Volvo is truly a global enterprise, one that is on standby to support customers quickly and efficiently – wherever they are.

We have a passion for performance.













Volvo Trucks

Renault Trucks



































Volvo Penta Volvo Financial Services

3

Revolutionary fuel efficiency.

At Volvo we know that fuel efficiency is one of your highest priorities. That's why our engineers are constantly developing clever innovations to make equipment more fuel efficient. Our unique, award-winning OptiShift technology – which reduces fuel consumption by up to 18% and increases machine performance – is a prime example of this.

Reverse By Braking (RBB)

The RBB function senses the loader's direction and slows the machine when the operator wants to change direction by reducing engine rpm and applying the service brakes automatically. This increases operator comfort and reduces stress on the drivetrain – extending component life.



Eco pedal

Volvo's unique eco pedal applies mechanical push-back force when the accelerator is used excessively and engine rpm is about to exceed the economic operating range. This encourages the operator to ease off the throttle, reducing fuel consumption.





Intelligent hydraulics

Volvo's load-sensing hydraulics supply power to the hydraulic functions according to demand, lowering fuel consumption. The powerful system ensures fast response for shorter cycle times while delivering smooth operation through superior control of both the load and attachment.





Comfort unlocks productivity.

Volvo's industry-leading cab has been designed with the operator in focus – providing a spacious, safe and quiet environment that's perfect for optimizing productivity all day long. With all-around visibility and a comfortable seat, step inside and see the difference this premium working environment will make to your performance.

Safe access

Easily and safely access the cab via a three-point access ladder with anti-slip steps. Ideally positioned, sturdy handrails and a wide door frame with a 95° opening angle further increase operator safety and comfort – as do the optional remote door opener and cab entrance light.



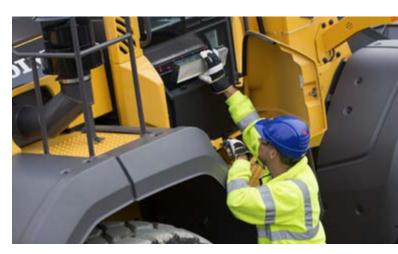
Single lever control

For ease of operation, the optional, multi-functional joystick gives the operator simultaneous and precise control of the hydraulic functions. Forward, reverse and kick-down functions are also included on the console.

Information panel

The display clearly presents the operator with vital machine information including fuel levels and warning messages – ensuring optimal operation. From the operator seat, basic configurations and tests can be performed via the panel – which is easy-to-read even in bright sunlight.





Cab air filter

The cab air intake is located high on the machine, where the air is cleanest. The easy-to-replace pre-filter effectively separates coarser dust and particles before the air passes through the main filter and finally enters the cab. Volvo's industry-leading design allows 90% of the cab air to be recirculated through the main filter for continuous dust removal.

Powerful. Durable. Reliable.

Featuring a premium Volvo Tier 4 Final/Stage IV engine and perfectly matched drivetrain and hydraulics, the L110H and L120H wheel loaders deliver the power, productivity and reliability you expect from Volvo. Whether you're working in the quarrying, material handling, recycling or any other application, these durable machines won't let you down.

Rear axle

The rear axle is supported on maintenance-free trunnions and includes lubricated-for-life bearings and bushings – reducing overall service cost and increasing machine uptime. The Volvo design minimizes force on the axle ensuring long life. Cradle oscillation pins are sealed to keep lubrication in and dirt out.

Volvo engine

Featuring advanced technology and built on decades of experience, the powerful, new Volvo engine meets the Tier 4 Final/Stage IV emission regulations and delivers the ultimate combination of high performance and low fuel consumption.





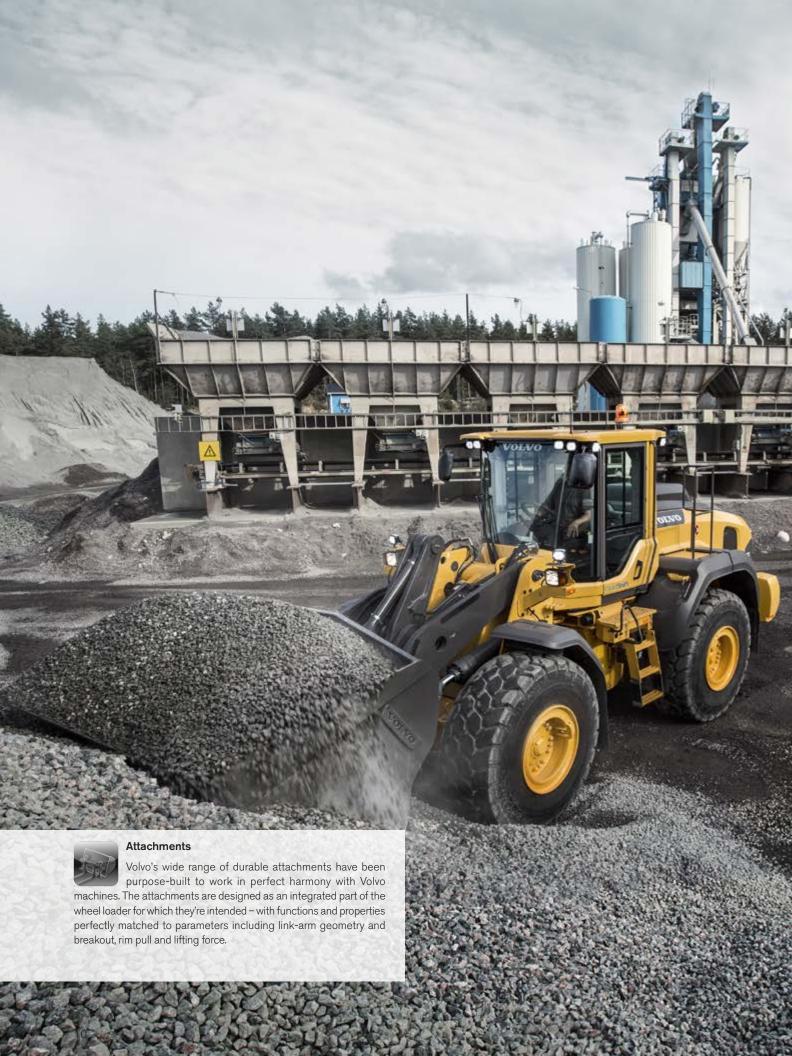
Reversible cooling fan

The hydraulically-driven, electronically controlled cooling fan regulates the temperature of the vital components. It automatically activates only when it's needed – reducing fuel consumption and noise. The reversible functionality – which blows air in the opposite direction – allows for self-cleaning of the cooling units.

Regeneration

During the regeneration process, particulate matter collected in the DPF is burnt off. The process is fully automatic and is done without interrupting machine operation, performance or productivity.





Get the job done with Volvo.

Maximize your productivity and profitability with the L110H, L120H and Volvo's comprehensive range of attachments. Increase your versatility, access more applications and effectively perform a variety of tasks – all while experiencing short cycle times, high lifting forces and excellent controllability.

Torque

Torque Parallel linkage

Volvo's unique Torque Parallel (TP) linkage delivers high breakout torque and excellent parallel movement throughout the entire lifting range.



Boom Suspension System

The optional Boom Suspension System (BSS) boosts productivity by up to 20% by absorbing shock and reducing the bouncing and bucket spillage that occurs when operating on rough ground. This enables faster and more comfortable work cycles and increases machine life.



Fully loaded.

Information panel

The display clearly presents the operator with vital machine information including fuel levels and warning messages.

Cab

The certified ROPS/FOPS cab features ergonomically placed controls, a superior climate control system, all-around visibility and low internal noise levels.





Adding value to your business.

Being a Volvo customer means having a complete set of services at your fingertips. Volvo can offer you a long-term partnership, protect your revenue and provide a full range of customer solutions using high quality parts, delivered by passionate people. Volvo is committed to the positive return of your investment.





Complete Solutions

Volvo has the right solution for you. So why not let us provide all your needs throughout the whole life cycle of your machine? By listening to your requirements, we can reduce your total cost of ownership and increase your revenue.





Our attention to detail is what makes us stand out. This proven concept acts as a solid investment in your machine's future. Parts are extensively tested and approved because every part is vital for uptime and performance. Only by using Genuine Volvo Parts, can you be sure that your machine retains the renowned Volvo quality.



Service Network

In order to respond to your needs faster, a Volvo expert is on their way to your job site from one of our Volvo facilities. With our extensive infrastructure of technicians, workshops and dealers, Volvo has a comprehensive network to fully support you using local knowledge and global experience.



Volvo L110H, L120H in detail.

Engine

The engine is a straight six cylinder, four stroke, turbo charged diesel engine with direct injection and charge air cooler. The engine meet US Tier 4 final and California Tier 4 final emission requirements and EU Stage IV emission requirements. The engine uses a common rail fuel system controlled by the engine control module (ECM). Engines with ACT (advanced combustion technology) feature split injection and turbocharger with mechanical wastegate. The exhaust after treatment system (EATS) is equipped with a diesel oxidation catalyst (DOC), a diesel particulate filter (DPF) and a SCR system to reduce emissions. Cooled exhaust gas recirculation (EGR) also reduces emissions.

L110H

Engine		D8J (Tier 4f)
		D8J (Stage IV)
Max power at	r/s (r/min)	30 (1,800)
SAE J1995 gross	kW (hp)	191 (259)
ISO 9249, SAE J1349 net	kW (hp)	190 (258)
Max torque at	r/s (r/min)	24.1 (1,450)
SAE J1995 gross	Nm lbf-ft	1 255 926
ISO 9249, SAE J1349 net	Nm lbf-ft	1 250 922
Economic working range	r/s (r/min)	14.2-35 (850-2,100)
Displacement	l gal	7.75 2

L120H

Engine		D8J (Tier 4f)
		D8J (Stage IV)
Max power at	r/s (r/min)	25 (1,500)
SAE J1995 gross	kW (hp)	203 (276)
ISO 9249, SAE J1349 net	kW (hp)	203 (276)
Max torque at	r/s (r/min)	24.1 (1,450)
SAE J1995 gross	Nm lbf-ft	1 320 973
ISO 9249, SAE J1349 net	Nm lbf-ft	1 317 971
Economic working range	r/s (r/min)	14.2-35 (850-2 100)
Displacement	l gal	7.75 2

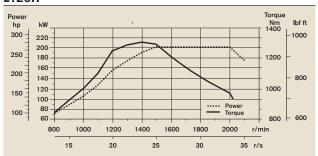
L110H Torque lbf ft Nm 1400 300 -1000 220 200 250 180 200 140 1000 120 150 -100 60 800 2000 800 1200 1400 1600 1800 r/min

25

30

35 r/s

L120H



Drivetrain

Torque converter: Lock-up clutch converter and free wheel stator. **Transmission:** Volvo countershaft transmission offer three different ways to chose drive. Fast and smooth shifting of gears with Pulse Width Modulation (PWM) valve.

Transmission: Volvo Automatic Power Shift (APS) with fully automatic shifting 1-4 and mode selector with 4 different gear shifting programs, including AUTO. OptiShift transmission is also available as an option and is standard equipment in the US. **Axles:** Volvo fully floating axle shafts with planetary hub reductions and cast steel axle housing. Fixed front axle and oscillating rear axle. 100% differential lock available on the front axle.

L110H

Transmission			Volvo	/olvo HTE 2060		
Torque multiplication, stall ratio					2.47:1	
	1st gear	km/h	mph	7	4.35	
Maximum speed,	2nd gear	km/h	mph	13.5	8.1	
forward/reverse	3rd gear	km/h	mph	28	17.4	
	4th gear*	km/h	mph	40	24.9	
Measured with tires				750)/65R25	
Front axle/rear axle				AWB 31/	'AWB 30	
Rear axle oscillation ±			0		± 13	
Ground clearance at 1	3° osc.	mm	in	460	18.1	

L120H

LIZUII					
Transmission			Volvo	Н	TE 206C
Torque multiplication					2.47:1
	1st gear	km/h	mph	7	4.35
Maximum speed,	2nd gear	km/h	mph	13.5	8.1
forward/reverse	3rd gear	km/h	mph	28	17.4
	4th gear*	km/h	mph	40	24.9
Measured with tires				750)/65R25
Front axle/rear axle				AWB 31/	'AWB 30
Rear axle oscillation ±			0		± 13
Ground clearance at 1	15° osc.	mm	in	460	18.1
* !! !!					

^{*} limited by ECU

Electrical system

Central warning system: Contronic electrical system with central warning light and buzzer for following functions: - Serious engine fault - Low steering system pressure - Over speed warning engine - Interruption in communication (computer fault) Central warning light and buzzer with the gear engaged for the following functions. - Low engine oil pressure - High engine oil temperature - High charge air temperature - Low coolant level - High coolant temperature - High crank case pressure - Low transmission oil pressure - High transmission oil temperature - Low brake pressure - Engaged parking brake - Fault on brake charging - Low hydraulic oil level - High hydraulic oil temperature - Overspeeding in engaged gear - High brake cooling oil temperature front and rear axles.

L110H, L120H

Voltage	V	24
Batteries	V	2 x 12
Battery capacity	Ah	2 x 170
Cold cranking capacity, approx.	Α	1 000
Alternator rating	W/A	2 280/80
Starter motor output	kW	5.5

Brake system

Service brake: Volvo dual-circuit system with nitrogen charged acculmulators. Outboard mounted hydraulically operated, fully sealed oil circulation cooled wet disc brakes. The operator can select automatic de-clutch of the transmission when braking by selecting the setting in the contronics.

Parking brake: Fully sealed, wet multi-disc brake built into the transmission. Applied by spring force and disengaged by external hydraulic pressure. The parking brake is activated and deactivated through a switch at the dashboard.

Secondary brake: Dual brake circuits with rechargeable accumulators. One circuit and the parking brake fulfills all safety requirements.

Standard: The brake system complies with the requirements of ISO 3450.

L110H

Accumulators	I	US gal	3 x 1.0	0.26
L120H				
Accumulators	- 1	US gal	3 x 1.0	0.26

Volvo L110H, L120H in detail.

Cab

Instrumentation: All important information is centrally located in the operator's field of vision. Display for Contronic monitoring system.

Heater and defroster: Heater coil with filtered fresh air and fan with auto and manual (11 speed) setting. Defroster vents for all window areas.

Operator's seat: Operator's seat with adjustable suspension and retractable seat belt. The seat is mounted on a bracket on the rear cab wall and floor. The forces from the retractable seat belt are absorbed by the seat rails.

Standard: The cab is tested and approved according to ROPS (ISO 3471, SAE J1040), FOPS (ISO 3449). The cab meets with requirements according to ISO 6055 (Operator overhead protection - Industrial trucks) and SAE J386 ("Operator Restraint System").

			L1	110H				
Emergency exit: Use emergency hammer to break window								
Sound level in cab according to SO 6396/SAE J2105	O AR(A)							
External sound level according to ISO 6396/SAE J2105	C	dB(A)		106				
Ventilation	m³/ min	yd³/ min	9	11.8				
Heating capacity		kW		16				
Air conditioning (optional)		kW		7.5				
			L1	20H				

			L1	20H		
Emergency exit: Use emergency hammer to break window						
Sound level in cab according to ISO 6396/SAE J2105	C	dB(A)		68		
External sound level according to ISO 6395/SAE J2104	C	dB(A)		106		
Ventilation	m³/ min	yd³/ min	9	11.8		
Heating capacity		kW		16		
Air conditioning (optional)		kW		7.5		

Lift arm system

Torque Parallel linkage (TP-linkage) with high breakout torque and parallel movement throughout the entire lifting range.

Lift cylinders				2	
Cylinder bore	mm	in	150	5.9	
Piston rod diameter	mm	in	80	3.1	
Stroke	mm	in	676	26.6	
Tilt cylinder				1	
Cylinder bore	mm	in	210	8.3	
Piston rod diameter	mm	in	110	4.3	
Stroke	mm	in	412	16.2	
			L120H		
Lift cylinders				2	
Cylinder bore	mm	in	150	5.9	
Piston rod diameter	mm	in	80	3.1	
Stroke	mm	in	676	26.6	
Tilt cylinder				1	
Cylinder bore	mm	in	210	8.3	
Piston rod diameter	mm	in	110	4.3	
Stroke	mm	in	412	16.2	

Hydraulic system

System supply: Two load-sensing axial piston pumps with variable displacement. The steering system always has priority. **Valves:** Double-acting 2-spool valve. The main valve is controlled by a 2-spool pilot valve.

Lift function: The valve has four positions; raise, hold, lower and floating position. Inductive/magnetic automatic boom kickout can be switched on and off and is adjustable to any position between maximum reach and full lifting height from inside the cab.

Tilt function: The valve has three functions including rollback, hold and dump. Inductive/magnetic automatic tilt can be adjusted to the desired bucket angle from inside the cab.

Cylinders: Double-acting cylinders for all functions
Filter: Full flow filtration through 10 micron (absolute) filter
cartridge.

				.110H		120H		
Working pressure maximum, pump 1 for working hydraulic system	MPa	bar	27.0 ± 0.5	270 ± 0.5	29.0 ± 0.5	290 ± 0.5		
Flow	l/min	gal/min	128	33.8	128	33.8		
at	MPa	bar	10	100	10	100		
engine speed	r/	/s(r/min)	32 (1,900)	32 (1,900)		
Working pressure maximum, pump 2 for steering-, brake-, pilot- and working hydraulic system	MPa	bar	29.0 ± 0.5	290 ± 0.5	31.0 ± 0.5	310 ± 0.5		
Flow	l/min	gal/min	128	33.8	128	33.8		
at	MPa	bar	10	100	10	100		
engine speed	r/	/s(r/min)	32 (1,900)	32 (1,900)		
Working pressure maximum, pump 3 for brake- and cooling fan system	MPa	bar	21.0 ± 0.5	210 ± 0.5	21.0 ± 0.5	210 ± 0.5		
Flow	I/min	gal/min	33	8.7	33	8.7		
at	MPa	bar	10	100	10	100		
engine speed	r/	/s(r/min)	32 (1,900)	32 (1,900)		
Pilot system, working pressure	MPa	bar	3.5	35	3.5	35		
Cycle times								
Lift		S		5.4		5.4		
Tilt		S		2.1		2.1		
Lower, empty		S		2.5		2.5		
Total cycle time		s		10.0		10.0		

Steering system

Steering system: Load-sensing hydrostatic articulated steering. **System supply:** The steering system has priority feed from a load-sensing axial piston pump with variable displacement. **Steering cylinders:** Two double-acting cylinders.

			L1	10H	L120H		
Steering cylinders				2		2	
Cylinder bore	mm	in	80	3.1	80	3.1	
Rod diameter	mm	in	50	2.0	50	2.0	
Stroke	mm	in	486	19.1	486	19.1	
Working pressure	MPa	in	21	210	21	210	
Maximum flow	l/min	gal/min	120	31.7	120	31.7	
Maximum articulation		±°		40		40	

Service

Service accessibility: Electrically openable engine hood with large opening angle giving excellent access to the engine compartment.

Fluid filters and component breather air filters promote long service intervals.

Possibility to monitor, log and analyze data to facilitate troubleshooting.

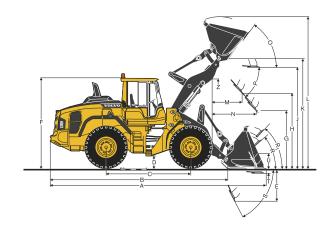
troublestrooting.						
Refill capacity			L1	10H	L1	20H
Fuel tank	- 1	gal	270	71.3	270	71.3
Diesel Exhaust Fluid tank		gal	24.9	6.5	24.9	6.5
Engine coolant	- 1	gal	43	11.4	43	11.4
Hydraulic oil tank	- 1	gal	133	35.1	133	35.1
Transmission oil	- 1	gal	38	10	38	10
Engine oil	- 1	gal	22	5.8	22	5.8
Axle oil front	- 1	gal	36	9.5	36	9.5
Axle oil rear	- 1	gal	41	10.8	41	10.8

Specifications L110H.

Tires 23.5 R25	L3					
			Standar	d boom	Lon	g boom
В	mm	ft in	6 480	21' 3"	7 010	23' 0"
С	mm	ft in	3 200	10' 6"	3 200	10' 6"
D	mm	ft in	430	1' 5"	430	1' 5"
F	mm	ft in	3 380	11'1"	3 380	11'1"
G	mm	ft in	2 131	7' 0"	2 134	7' 0"
J	mm	ft in	3 700	12' 2"	4 240	13' 11"
K	mm	ft in	4 030	13' 3"	4 550	14' 11"
0		0		55		54
Pmax		0		50		46
R		0		40		41
R ₁ *		0		44		48
S		0		66		64
T	mm	ft in	98	0' 3.9"	89	0' 3.5"
U	mm	ft in	430	1' 5"	610	2' 0"
Χ	mm	ft in	2 070	6' 9"	2 070	6' 9"
Υ	mm	ft in	2 670	8' 9"	2 670	8' 9"
Z	mm	ft in	3 310	10' 10"	3 820	12' 6"
a ₂	mm	ft in	5 730	18' 10"	5 730	18' 10"
a ₃	mm	ft in	3 060	10' 1"	3 060	10' 1"
a ₄	_	±°		40		40

* Carry position SAE

Standard boom with 3.0 m³ / 3.9 yd³ STE H T bucket Long boom with 2.6 m³ / 3.4 yd³ STE P BOE bucket



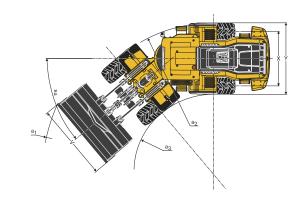
Where applicable, specifications and dimensions are according to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818.

L110H

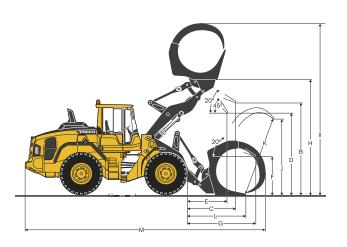
Sales code: WLA80832 Operating weight

(incl. logging cw 685 kg / 1,510 lb): 19 916 kg / 43,920 lb

Operating load: 5 850 kg / 12,900 lb



5 R25			
m ²	ft ²	2.4	25.8
mm	in	3 470	11' 5"
mm	in	1 850	6' 1"
mm	in	2 850	9' 4"
mm	in	1 460	4' 10"
mm	in	1 520	5' 0"
mm	in	2 720	8' 11"
mm	in	4 580	15' 0"
mm	in	6 620	21' 9"
mm	in	2 790	9' 2"
mm	in	2 990	9' 10"
mm	in	2 060	6' 9"
mm	in	8 770	28' 9"
	mm mm mm mm mm mm mm mm	m² ft² mm in	m² ft² 2.4 mm in 3 470 mm in 1 850 mm in 2 850 mm in 1 460 mm in 2 720 mm in 2 720 mm in 4 580 mm in 6 620 mm in 2 790 mm in 2 990 mm in 2 060



L110H																						
			REHANDLING					GEI	NERAL	PURP	OSE			ROCK*			HT ERIAL		LONG BOOM**			
Tires 23.5R25 XHA	2 L:	3			F E				FÉ		I		G E				86		86			
			4.6	m³ yd³ P BOE	4.6	m³ yd³ H BOE	3.9	m³ yd³ P T	3.9	m³ yd³ H T	4.4	m³ yd³ P BOE	4.4	m³ yd³ I BOE	3.5 SPI	m³ yd³ N P EG	7.2	i m³ 2yd³ /I H	12.4	i m³ 1 yd³ 1 H		
Volume, heaped ISO/SAE	m ³	yd ³	3.5	4.6	3.5	4.6	3.0	3.9	3.0	3.9	3.4	4.4	3.4	4.4	2.7	3.5	5.5	7.2	9.5	12.4		
Volume at 110% fill factor	m ³	yd ³	3.9	5.0	3.9	5.0	3.3	4.3	3.3	4.3	3.7	4.9	3.7	4.9	3.0	3.9	6.1	7.9	10.5	13.7		
Static tipping load, straight	kg	lb	13 460	29,670	12 780	28,190	13 770	30,370	13 100	28,890	13 350	29,430	12 680	27,960	13 780	30,390	11 980	26,410	12 070	26,620	-2 540	-5 588
at 35° turn	kg	lb	11 960	26,370	11 330	24,990	12 270	27,050	11 640	25,670	11 860	26,140	11 240	24,780	12 240	26,980	10 550	23,260	10 610	23,400	-2 330	-5 126
at full turn	kg	lb	11 520	25,390	10 900	24,040	11 820	26,070	11 210	24,720	11 420	25,170	10 810	23,830	11 780	25,970	10 130	22,340	10 180	22,450	-2 270	-4 994
Breakout force	kN	lb	162.1	36,440	149.8	33,680	175.8	39,530	161.0	36,210	157.7	35,460	145.9	32,800	143.1	32,170	115.0	25,850	100.3	22,550		
A	mm	ft in	7 970	26' 2"	8 080	26' 6"	8 120	26' 8"	8 220	27' 0"	8 010	26' 3"	8 120	26' 8"	8 310	27' 3"	8 500	27' 11"	8 800	28' 10"	510	1' 8'
E	mm	ft in	1 220	4' 0"	1 320	4' 4"	1 350	4' 5"	1 450	4' 9"	1 260	4' 2"	1 360	4' 6"	1 510	5' 0"	1 700	5' 7"	1 960	6' 5"	-10	-4/10
Н	mm	ft in	2 820	9' 3"	2 750	9' 0"	2 720	8' 11"	2 660	8' 9"	2 790	9' 2"	2 720	8' 11"	2 610	8' 7"	2 420	7' 11"	2 220	7' 3"	510	1' 8'
L	mm	ft in	5 440	17' 10"	5 5 1 0	18' 1"	5 550	18' 2"	5 610	18' 5"	5 620	18' 5"	5 670	18' 7"	5 550	18' 2"	5 850	19' 2"	6 010	19' 9"	520	1' 9'
M	mm	ft in	1 170	3' 10"	1 250	4' 1"	1 260	4' 2"	1 350	4' 5"	1 200	3' 11"	1 280	4' 2"	1 400	4' 7"	1 520	5' 0"	1 730	5' 8"	-30	-0'1'
N	mm	ft in	1 710	5' 7"	1 750	5' 9"	1 750	5' 9"	1 800	5' 11"	1 730	5' 8"	1 770	5' 9"	1 810	5' 11"	1 800	5' 11"	1 820	6' 0"	450	1' 6"
V	mm	ft in	3 000	118"	3 000	118"	2 880	113"	2 880	113"	2 880	113"	2 880	113"	2 880	113"	3 000	118"	3 400	133"		
a, clearance circle	mm	ft in	12 750	41' 10"	12 800	42' 0"	12 710	41' 8"	12 770	41' 11"	12 660	41'6"	12 710	41'8"	12 830	42' 1"	13 060	42' 10"	13 610	44' 8"	440	1' 5"
Operating weight	kg	lb	18 490	40,770	18 730	41,290	18 360	40,480	18 560	40,930	18 560	40,920	18 760	41,370	19 560	43,130	19 100	42,120	19 320	42,610	300	660

^{*} With MICHELIN 23,5R25 XMINE D2 L5 Tire

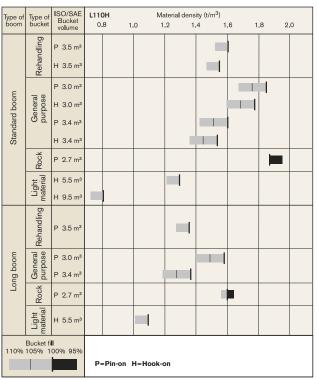
Bucket Selection Chart

The chosen bucket is determined by the density of the material and the expected bucket fill factor. The actual bucket volume is often larger than the rated capacity, due to the features of the TP linkage, including an open bucket design, good rollback angles in all positions and good bucket filling performance. The example represents a standard boom configuration. Example: Sand and gravel. Fill factor ~ 105%. Density 1.6 t/m³ (2,700 lb/yd³).

Result: The 3.4 m³ (4.5 yd³) bucket carries 3.6 m³ (4.7 yd³). For optimum stability always consult the bucket selection chart.

Material	Bucket	fill, %		erial nsity	buc	SAE ket ime	Actual volume		
			t/m³	lb/yd ³	m³	yd ³	m³	yd ³	
Earth/Clay	~ 110	\bigcirc	1.8 1.6	3,030 2,700	3.0 3.4	3.9 4.5	3.3 3.7	4.3 4.8	
Sand/ Gravel	~ 105		1.8 1.6	3,030 2,700	3.0 3.4	3.9 4.5	3.2 3.6	4.2 4.7	
Aggregate	~ 100	\bigcirc	1.8 1.6	3,030 2,700	3.5	4.6	3.5	4.6	
Rock	≤100		1.7	2,866	2.7	3.5	2.7	3.5	

The size of rock buckets is optimized for optimal penetration and filling capability rather than the density of the material.



How to read bucket fill factor

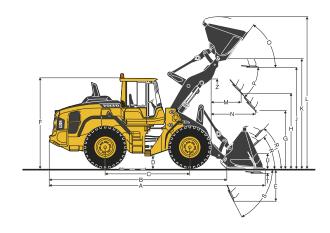
Supplemental Operating Data										
				Standar	Long boom					
Tires 23.5 R25 L3			23.5 F	R25 L5	750/6	55 R25	750/65 R25			
Width over tires	mm	in	30	1.2	200	7.9	200	7.9		
Ground clearance	mm	in	50	2	±Ο	±Ο	±Ο	±Ο		
Tipping load, full turn	kg	lb	490	1,078	430	946	310	682		
Operating weight	kg	lb	670	1,474	640	1,408	640	1,408		

^{**} Based on 3.0 m^3 / 3.9 yd^3 STE H T bucket

Specifications L120H.

Tires 23.5	R25 L3					
			Standar	d boom	Lon	g boom
В	mm	ft in	6 580	21' 7"	7 070	23' 2'
С	mm	ft in	3 200	10' 6"	3 200	10' 6'
D	mm	ft in	440	1' 5"	440	1' 5'
F	mm	ft in	3 380	11'1"	3 390	11'1'
G	mm	ft in	2 132	7' 0"	2 133	7' 0'
J	mm	ft in	3 760	12' 4"	4 310	14' 2'
K	mm	ft in	4 100	13' 5"	4 630	15' 2"
0		0		54		55
Pmax		0		50		49
R		0		42		42
R ₁ *		0		45		50
S		0		68		64
T	mm	ft in	119	0' 4.7"	127	0' 5"
U	mm	ft in	450	1' 6"	640	2' 1"
Χ	mm	ft in	2 070	6' 9"	2 070	6' 9"
Υ	mm	ft in	2 670	8' 9"	2 670	8' 9"
Z	mm	ft in	3 340	10' 11"	3 720	12' 3"
a_2	mm	ft in	5 730	18' 10"	5 730	18' 10"
a_3	mm	ft in	3 060	10' 1"	3 060	10' 1"
a ₄	on SAF	±°		40		40

Standard boom with 3.3 m³ / 4.3 yd³ STE H T bucket Long boom with 2.6 m³ / 3.4 yd³ STE P BOE bucket



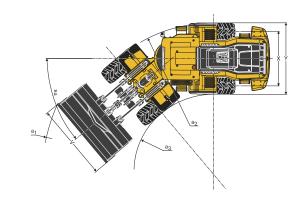
Where applicable, specifications and dimensions are according to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818.

L120H

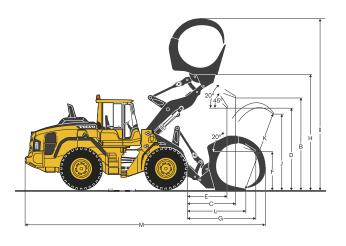
Sales code: WLA80832 Operating weight

(incl. logging cw 685 kg / 1,510 lb): 20 713 kg / 45,660 lb

Operating load: 6 400 kg / 14,110 lb



5 R25			
m ²	ft ²	2.4	25.8
mm	in	3 470	11'8"
mm	in	1 850	6' 2"
mm	in	2 850	9' 7"
mm	in	1 460	4' 11"
mm	in	1 520	5' 0"
mm	in	2 720	9' 2"
mm	in	4 580	15' 3"
mm	in	6 620	21' 11"
mm	in	2 790	9' 2"
mm	in	2 990	9' 10"
mm	in	2 060	7' 1"
mm	in	8 770	29' 1"
	mm mm mm mm mm mm mm mm	m² ft² mm in	m² ft² 2.4 mm in 3 470 mm in 1 850 mm in 2 850 mm in 1 460 mm in 2 720 mm in 2 720 mm in 4 580 mm in 6 620 mm in 2 790 mm in 2 990 mm in 2 060



L120H																						
				REHANDLING					GEI	NERAL	PURP	OSE			POCK*			HT ERIAL		LONG BOOM**		
Tires 23.5R25 XHA	2 L:	3			G E			W.	PE		I		Î				86		86			
			5.0	3 m³ yd³ P BOE	5.0	m³ yd³ I BOE	4.3	m³ yd³ P T	4.3	m³ yd³ H T		m³ yd³ P BOE	4.7	m³ yd³ I BOE	3.9 SPI	m³ yd³ N P SEG	7.2	5 m³ 2yd³ /I H	9.5 12.4 LN	ł yd³		
Volume, heaped ISO/SAE	m ³	yd ³	3.8	5.0	3.8	5.0	3.3	4.3	3.3	4.3	3.6	4.7	3.6	4.7	3.0	3.9	5.5	7.2	9.5	12.4		
Volume at 110% fill factor	m ³	yd ³	4.2	5.5	4.2	5.5	3.6	4.7	3.6	4.7	4.0	5.2	4.0	5.2	3.3	4.3	6.1	7.9	10.5	13.7		
Static tipping load, straight	kg	lb	14 360	31,660	13 680	30,160	14 800	32,630	14 450	31,870	14 810	32,660	14 080	31,040	14 860	32,760	13 010	28,690	13 120	28,940	-2 680	-5,896
at 35° turn	kg	lb	12710	28,030	12 080	26,630	13 120	28,940	12 790	28,210	13 110	28,920	12 430	27,410	13 160	29,020	11 440	25,230	11 510	25,390	-2 440	-5,368
at full turn	kg	lb	12 220	26,950	11 610	25,590	12 630	27,850	12 300	27,120	12 610	27,810	11 950	26,340	12 660	27,920	10 980	24,200	11 040	24,340	-2 370	-5,214
Breakout force	kN	lb	163.7	36,820	151.6	34,090	189.2	42,530	173.5	39,010	172.9	38,870	159.6	35,880	150.6	33,870	121.6	27,340	106.0	23,840		
A	mm	ft in	8 140	26' 8"	8 240	27' 0"	8 230	27' 0"	8 340	27' 4"	8 050	26' 5"	8 160	26' 9"	8 390	27' 6"	8 610	28' 3"	8 910	29' 3"	460	
E	mm				1 390	4' 7"	1 380	4' 6"	1 480	4' 10"	1 230	4' 0"	1 330	4' 4"	1 520	5' 0"	1 730	5' 8"	1 990	6' 6"		-8/10'
Н	mm	ft in	2 840	9' 4"	2 780	9' 1"	2 780	9' 1"	2 700	8' 10"	2 900	9' 6"	2 830	9' 3"	2 690	8' 10"	2 480	8' 2"	2 270	7' 6"	560	1' 10'
L	mm	ft in	5 580	18' 4"	5 650	18' 6"	5 700	18' 8"	5 760	18' 11"	5 750	18' 10"	5 820	19' 1"	5 690	18' 8"	5 900	19' 4"	6 070	19' 11"	520	1' 9"
M	mm	ft in			1 330	4' 4"	1 310	4' 3"	1 390	4' 7"	1 190	3' 11"	1 280	4' 2"	1 440	4' 9"	1 560	5' 1"	1 760	5' 9"	-50	-0' 2"
N	mm				1 870	6' 1"	1 840	6' 0"	1 880	6' 2"	1 800	5' 11"	1 840	6' 0"	1 930	6' 4"	1 890	6' 2"	1 910	6' 3"	450	1' 6"
V			3 000		3 000	118"	3 000	118"	3 000	118"	3 000	118"	3 000	118"	2 880	113"	3 000	118"	3 400	133"		
a, clearance circle	mm		12 840		12 900	42' 4"	12 890		12 950		12 800		12 850		12 890		13 130		13 660		410	1' 4'
Operating weight	kg	lb	19 370	42,710	19 590	43,200	19 280	42,510	19 460	42,900	19 420	42,830	19 640	43,300	20 260	44,680	19 900	43,880	20 120	44,360	240	528

^{*} With MICHELIN 23,5R25 XMINE D2 L5 Tire

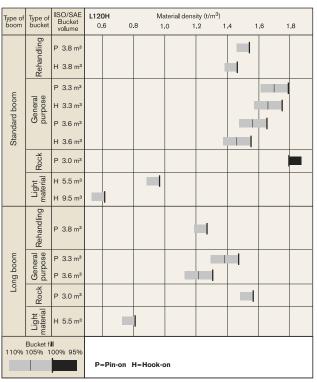
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Result: The 3.4 m³ (4.5 yd³) bucket carries 3.6 m³ (4.7 yd³). For optimum stability always consult the bucket selection chart.

Material	Bucket	fill, %		erial sity	buc	SAE ket ime	Actual volume		
			t/m³	lb/yd ³	m³	yd ³	m³	yd ³	
Earth/Clay	~ 110	\bigcirc	1.8 1.6	3,030 2,700	3.3 3.6	4.3 4.7	3.6 3.9	4.7 5.1	
Sand/ Gravel	~ 105	\bigcirc	1.8 1.6	3,030 2,700	3.3 3.6	4.3 4.7	3.5 3.8	4.6 5.0	
Aggregate	~ 100	\bigcirc	1.8 1.6	3,030 2,700	3.8	5.0	3.8	5.0	
Rock	≤100		1.7	2,866	3.0	3.9	3.0	3.9	

The size of rock buckets is optimized for optimal penetration and filling capability rather than the density of the material.



How to read bucket fill factor

Supplemental Operating Data										
				Standar	Long boom					
Tires 23.5 R25 L3			23.5 I	R25 L5	750/6	5 R25	750/6	65 R25		
Width over tires	mm	in	30	1.2	200	7.9	200	7.9		
Ground clearance	mm	in	50	2	±0	±Ο	±0	±0		
Tipping load, full turn	kg	lb	450	990	380	836	330	726		
Operating weight	ka	lb	670	1,474	640	1,408	640	1,408		

^{**} Based on 3,3 m 3 / 4.3 yd 3 STE H T bucket

Equipment.

STANDARD EQUIPMENT		
	L110H	L120H
Service and maintenance		
Engine oil remote drain and fill	•	•
Transmission oil remote drain and fill	•	•
Lubrication manifolds, ground accessible	•	•
Pressure check connections: transmission	•	•
and hydraulic, quick-connects		
Tool box, lockable	•	•
CareTrack	•	•
Telematics, 6 -Year Subscription	•	•
Engine		
Exhaust after-treatment system	•	•
Three stage air cleaner, pre-cleaner, primary and secondary filter	•	•
Indicator for coolant level	•	•
Preheating of induction air	•	•
Fuel pre-filter with water trap	•	•
Fuel filter	•	•
Crankcase breather oil trap	•	•
Exterior radiator air intake protection	•	•
Electrical system		
24 V, pre-wired for optional accessories	•	•
Alternator 80A/2280W	•	•
Battery disconnect switch	•	•
Fuel gauge	•	•
Hour meter	•	•
Electric horn	•	•
Instrument cluster:	•	•
Fuel level		
Diesel Exhaust Fluid/AdBlue level		
Transmission temperature		
Coolant temperature		
Instrument lighting		
Lighting:	•	•
Twin halogen front headlights with high		
and low beams		
Parking lights		
Double brake and tail lights		
Turn signals with flashing hazard light		
function		
Halogen work lights (2 front and 2 rear)		

	L110H	L120H
Contronic monitoring system		
Monitoring and logging of machine data	•	•
Contronic display	•	•
Fuel consumption	•	•
Diesel Exhaust Fluid/AdBlue consumption	•	•
Ambient temperature	•	•
Clock	•	•
Test function for warning and indicator lights	•	•
Brake test		
Test function, sound level at max fan speed	•	•
Warning and indicator lights:	•	
	•	•
Battery charging		
Parking brake		
Warning and display message:	•	•
Regeneration		
Engine coolant temperature		
Charge-air temperature		
Engine oil temperature		
Engine oil pressure		
Transmission oil temperature		
Transmission oil pressure		
Hydraulic oil temperature		
Brake pressure		
Parking brake applied		
Brake charging		
Overspeed at direction change		
Axle oil temperature		
Steering pressure		
Crankcase pressure		
Attachment lock open		
Level warnings:	•	•
Fuel level		
Diesel Exhaust Fluid/AdBlue level		
Engine oil level		
Engine coolant level		
Transmission oil level		
Hydraulic oil level		
Washer fluid level		
Engine torque reduction in case of		
malfunction indication:	·	·
High engine coolant temperature		
High engine oil temperature		
Low engine oil pressure		
High crankcase pressure		
High charge-air temperature		
Engine shutdown to idle in case of	_	•
malfunction indication:	•	•
High transmission oil temperature		
Slip in transmission clutches		
Keypad, background lit	•	•

	L110H	L120H
Drivetrain	211011	212011
Automatic Power Shift	•	•
Fully automatic gearshifting, 1-4	•	•
PWM-controlled gearshifting	•	•
Forward and reverse switch by hydraulic		
lever console	•	•
Indicator glass for transmission oil level	•	•
Differentials: Front, 100% hydraulic diff.		
lock. Rear, conventional.	•	•
OptiShift (North America only)	•	•
Brake system		
Dual brake circuits	•	•
Dual brake pedals	•	•
Secondary brake system	•	•
Parking brake, electro-hydraulic	•	•
Brake wear indicators	•	•
Cab		
ROPS (ISO 3471), FOPS (ISO 3449)	•	•
Single key kit door/start	•	•
Acoustic inner lining	•	•
Cigarette lighter, 24 V power outlet	•	•
Lockable door	•	•
Cab heating with fresh air inlet and defroster	•	•
Fresh air inlet with two filters	•	•
Automatic heat control	•	•
Floor mat	•	•
Dual interior lights	•	•
Interior rear-view mirrors	•	•
Dual exterior rear-view mirrors	•	•
Sliding window, right side	•	•
Tinted windshield glass	•	•
Retractable seat belt (SAE J386)	•	•
Adjustable steering wheel	•	•
Storage compartment	•	•
Document pocket	•	•
Sun visor	•	•
Beverage holder	•	•
Windshield washer front and rear	•	•
Windshield wipers front and rear	•	•
Interval function for front and rear wipers	•	•

	144011	
	L110H	L120H
Hydraulic system		
Main valve, double acting 2-spool with hydraulic pilots	•	•
Variable displacement axial piston pumps (3) for:	•	•
1 Working hydraulics, Pilot hydraulics and Brake system		
2 Working hydraulics, Pilot hydraulics, Steering and Brake system		
3 Cooling fan and Brake system		
Electro-hydraulic servo controls	•	•
Electronic hydraulic lever lock	•	•
Automatic boom kick-out	•	•
Automatic bucket positioner	•	•
Double-acting hydraulic cylinders	•	•
Indicator glass for hydraulic oil level	•	•
Hydraulic oil cooler	•	•
External equipment		
Fenders, front and rear	•	•
Viscous cab mounts	•	•
Rubber engine and transmission mounts	•	•
Frame, joint lock	•	•
Vandalism lock prepared for	•	•
Engine compartment		
Radiator grille		
Lifting eyes	•	•
Tie-down eyes	•	•
Tow hitch	•	•
Counterweight, pre-drilled for optional guards	•	•

Equipment.

OPTIONAL EQUIPMENT		
	L110H	L120H
Service and maintenance		
Automatic lubrication system	•	•
Automatic lubrication system for long boom Grease nipple guards	•	•
Oil sampling valve	•	•
Refill pump for grease to lube system	•	•
Tool kit	•	•
Wheel nut wrench kit	•	•
Engine		
Air pre-cleaner, cyclone type	•	•
Air pre-cleaner, oil-bath type Air pre-cleaner, turbo type	•	•
Engine auto shutdown	•	•
Engine block heater 230V/110V	•	•
Fuel fill strainer	•	•
Fuel heater	•	•
Hand throttle control	•	•
Max. fan speed, hot climate	•	•
Radiator, corrosion-protected	•	•
Reversible cooling fan	•	•
Reversible cooling fan and axle oil cooler Electrical system	•	•
Anti-theft device	•	•
Emergency stop	•	•
Headlights, assym. left	•	•
License plate holder, lighting	•	•
Rear view camera incl. monitor, color	•	•
Rear view mirrors, Long arm	•	•
Rear view mirrors, adjustable, el. heated,	•	•
Long arm		
Reduced function working lights,	•	•
reverse gear activated Reverse alarm		
Reverse warning light, strobe lighting	•	•
Shortened headlight support brackets	•	•
Side marker lamps	•	•
Rotating beacon	•	•
Working lights, attachments	•	•
Working lights front, high intensity	•	•
discharge (HID)		
Working lights front, on cab, dual	•	•
Working lights front, extra	•	•
Working lights rear, on cab Working lights rear, on cab, dual	•	
Working lights, front on cab, 2 LED lamps	•	•
Working lights, rear on cab, 2 LED lamps	•	•
Working lights, front on cab, 4 LED lamps	•	•
Working lights, rear on cab, 4 LED lamps	•	•
Working lights, side on cab, 4 LED lamps	•	•
Working lights, rear in grille, 2 LED lamps	•	•
Working lights, front above head lamps, 2	•	•
LED lamps		
Taillight, LED lamp	•	•
Electrical distribution unit 24 volt	•	•
Ancherage for Operator's manual	•	•
Anchorage for Operator's manual Automatic Climate Control, ACC	•	
ACC control panel, with Fahrenheit scale	•	•
Asbestos dust protection filter	•	•
Ashtray	•	•
Cab air pre-cleaner, cyclone type	•	•
Carbon filter	•	•
Cover plate, under cab	•	•
•		

	L110H	L120H
Cab		
Lunch box holder	•	•
Armrest, operator's seat, ISRI, left only	•	•
Volvo Armrest, operator's seat, left	•	•
Operator's seat, Volvo air susp., heavy-duty, high back, heated, not for CDC	•	•
Operator's seat, Volvo air susp., heavy-duty, high back, heated, for CDC	•	•
Operator's seat, ISRI, air susp., heavy-duty, for CDC and/or el. servo	•	•
Radio installation kit incl. 12 volt outlet, left side	•	•
Radio installation kit incl. 12 volt outlet,	•	
right side Radio with CD-player		•
Seatbelt, 3", (width 75 mm)	•	•
Steering wheel knob	•	•
Sun blinds, rear windows	•	•
Sun blinds, side windows	•	•
Timer cab heating	•	•
Window, sliding, door	•	•
Universal door/ignition key	•	•
Remote door opener	•	•
Forward view mirror	•	•
Drivetrain		
Diff lock front 100%, Limited Slip rear	•	•
Speed limiter, 20 km/h (12.4 mph)	•	•
Speed limiter, 30 km/h (18.6 mph)	•	•
Speed limiter, 40 km/h (24.8 mph)	•	•
Wheel/axle seal guards	•	•
Brake system		
Oil cooler and filter front & rear axle	•	•
Stainless steel, brake lines	•	•
Hydraulic system		
Boom suspension system	•	•
Separate attachment locking, standard boom	•	•
Separate attachment locking, long boom	•	•
Arctic kit, attachment locking hoses	•	•
Boom cylinder hose and tube guards	•	•
Hydraulic fluid, biodegradable, Volvo	•	•
Hydraulic fluid, fire-resistant	•	•
Hydraulic fluid, for hot climate	•	•
Electro-hydraulic function, 3rd	•	•
Electro-hydraulic function, 3rd for long boom Electro-hydraulic function, 3rd-4th	•	•
Electro-hydraulic function, 3rd-4th for long boom		
Single lever control, hydraulics 1-2 functions	•	•
Single lever control, hydraulics 3 functions	•	•
Single lever control, hydraulics 3 functions		
long boom	•	•
Single lever control, hydraulics 1-2 functions long boom	•	•
Single lever control, hydraulics 4 functions	•	•
Single lever control, hydraulics 4 functions long boom	•	•
External equipment		
Cab ladder, rubber-suspended	•	•
Deleted front mudguards & wideners rear	•	•
Fire suppression system	•	•
Mudguards, full cover, rear for 80-series tires		•
Mudguards, full cover, rear for 65-series tires	•	•
	•	•
Long boom	•	-

	L110H	L120H
Protective equipment		
Belly guard front	•	•
Belly guard rear	•	•
Cover plate, heavy-duty, front frame	•	•
Cover plate, rear frame	•	•
Cover plate, front/rear axle	•	•
Cab roof, heavy-duty	•	•
Guards for front headlights	•	•
Guards for radiator grill	•	•
Guards for tail lights, heavy-duty	•	•
Windows, side and rear guards	•	•
Windshield guard	•	•
Corrosion protection, painting of machine	•	•
Corrosion protection, painting of		
attachment bracket		·
Bucket Teeth protection	•	•
Tires		
23.5 R25	•	•
750/65 R25	•	•
Other equipment		
CE-marking	•	•
Comfort Drive Control (CDC)	•	•
Counterweight, logging	•	•
Counterweight, signal painted, chevrons	•	•
Secondary steering with automatic test function	•	•

	L110H	L120H
Other equipment	•	
Sound decal, EU	•	•
Sound decal, USA	•	•
Reflecting stickers (decals), machine contour	•	•
Reflecting stickers (stripes), machine contour Cab	•	•
Noise reduction kit, exterior	•	•
Sign, slow moving vehicle	•	•
CareTrack, GSM	•	•
CareTrack, GSM/Satellite	•	•
Attachments		
Buckets:		
Rock straight or spade nose	•	•
General purpose	•	•
Re-handling	•	•
Side-dump		
Light material	•	•
Wear parts:		
Bolt-on and weld-on bucket teeth	•	•
Segments	•	•
Cutting edge in three sections, bolt-on	•	•
Fork equipment	•	•
Material handling arm	•	•
Log grapples	•	•

Selection of Volvo optional equipment

Comfort Drive Control (CDC)



Special application options



Central lubrication



Attachment bracket



LED Lights



Rear-view camera



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.

