Volvo Construction Equipment

L110H, L120H

VOLVO WHEEL LOADERS 18.0-21.6t 259-276hp

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

Mack Trucks

UD Trucks

Volvo Buses

Volvo Construction Equipment

Volvo Penta

Volvo Financial Services

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.

OptiShift

Volvo's optional OptiShift technology combines the company's patented Reverse By Braking (RBB) technology and a torque converter with lock-up. Lock-up creates a direct drive between the engine and transmission – eliminating power losses in the torque converter and reducing fuel consumption by up to 18%.

Volvo cab

The spacious ROPS/FOPS certified cab features ergonomically placed controls, all-around visibility and ample storage. With effective sound insulation, low internal noise levels and vibration protection, operators will experience a comfortable and productive work shift.

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

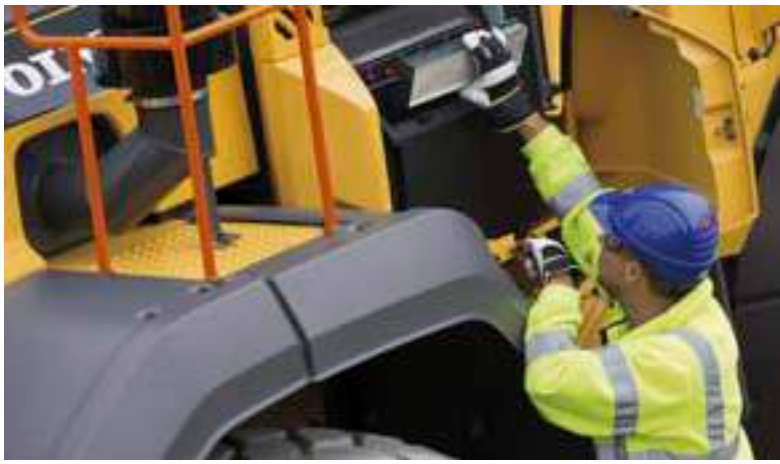
Easily and safely access the cab via a three-point access ladder with anti-slip steps. Ideally positioned, sturdy handrails and a wide door frame with a 95° opening angle further increase operator safety and comfort – as do the optional remote door opener and cab entrance light.

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.

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.



Cab air filter

The cab air intake is located high on the machine, where 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.

Maintaining a smooth operation

Enjoy peace-of-mind for maximum machine uptime with the rear axle design. The sealed oscillation pins cradle keeps the grease in and the dirt out, keeping components greased for up to 8,000 hours so you can rely on reduced overall service time and costs.

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.

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.

Powertrain

The ideally-matched, all-Volvo powertrain has been built to work together in perfect harmony. The Volvo design has been rigorously tested to deliver optimized performance, high productivity, low fuel consumption and superior reliability.

Attachments

Volvo's wide range of durable attachments have been purpose-built to work in perfect harmony with Volvo machines. The attachments are designed as an integrated part of the wheel loader for which they're intended – with functions and properties perfectly matched to parameters including link-arm geometry and breakout, rim pull and lifting force.

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 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.

Cab

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

Information panel

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

TP linkage

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

OptiShift

Volvo's optional OptiShift technology reduces fuel consumption by up to 18%, increases operator comfort and reduces stress in the drivetrain.

Intelligent hydraulics

Volvo's load-sensing hydraulics supply power to the hydraulic functions according to demand, lowering fuel consumption.

Attachments

Volvo's wide range of durable attachments have been purpose-built to deliver maximum productivity with Volvo machines.

Single lever

The optional, multi-functional joystick gives the operator simultaneous and precise control of the linkage.

AdBlue®

Volvo offers a total AdBlue solution that is quality assured, cost efficient and easily accessible. Contact your Volvo dealer for more information.

Easy service access

Electrically actuated, wide-opening engine hood allows quick and easy service access to the engine compartment.

Volvo engine

Volvo's powerful Tier 4 Final/Stage IV engine delivers the ultimate combination of high performance and low fuel consumption.

Powertrain

The ideally-matched, all-Volvo powertrain has been built to work together in perfect harmony – ensuring optimized performance.

® = registered trademark of the Verband der Automobilindustrie e.V. (VDA)

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.

Genuine Volvo Parts

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.

Customer Support Agreements

The range of Customer Support Agreements offer preventive maintenance, total repairs and a number of uptime services. Volvo uses the latest technology to monitor machine operation and status, giving you advice to increase your profitability. By having a Customer Support Agreement you are in control of your service costs.

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.

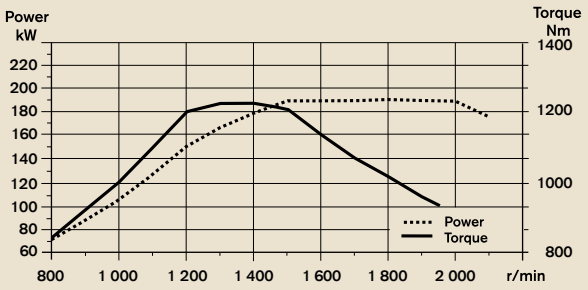
L110H

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)	1 255 (926)
ISO 9249, SAE J1349 net	Nm (lbf)	1 250 (922)
Economic working range	r/min	850-2 100
Displacement	l	7.755

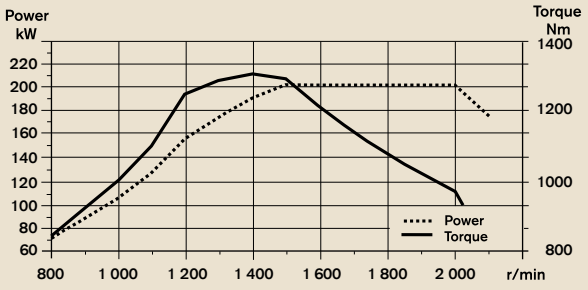
L120H

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)	1 320 (973)
ISO 9249, SAE J1349 net	Nm (lbf)	1 317 (971)
Economic working range	r/min	850-2 100
Displacement	l	7.755

L110H



L120H



Drivetrain

Torque converter: Single-stage.
Transmission: Volvo countershaft transmission with single lever control. 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.
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 on the front axle.

L110H

Transmission		Volvo	HTE 206C
Torque multiplication, stall ratio			2.47:1
Maximum speed, forward/reverse	1st gear	km/h	7
	2nd gear	km/h	13.5
	3rd gear	km/h	28
	4th gear*	km/h	40
Measured with tires			750/65R25
Front axle/rear axle			AWB 31/AWB 30
Rear axle oscillation ±		°	± 13
Ground clearance at 13° osc.		mm	460

L120H

Transmission		Volvo	HTE 206C
Torque multiplication			2.47:1
Maximum speed, forward/reverse	1st gear	km/h	7
	2nd gear	km/h	13.5
	3rd gear	km/h	28
	4th gear*	km/h	40
Measured with tires			750/65R25
Front axle/rear axle			AWB 31/AWB 30
Rear axle oscillation ±		°	± 13
Ground clearance at 15° osc.		mm	460

* 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	A	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 declutch 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 diactivated through a switch in the dashboard.
Secondary brake: Dual brake circuits with rechargeable accumulators. One circuit or the parking brake fulfills all safety requirements.
Standard: The brake system complies with the requirements of ISO 3450.

L110H

Number of brake discs per wheel front		1
Accumulators	l	3 x 1.0

L120H

Number of brake discs per wheel front		1
Accumulators	l	3 x 1.0

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 seatbelt. The seat is mounted on a bracket on the rear cab wall and floor. The forces from the retractable seatbelt 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").

		L110H
Emergency exit: Use emergency hammer to break window		
Sound level in cab according to SO 6396/SAE J2105	dB(A)	68
External sound level according to ISO 6396/SAE J2105	dB(A)	106
Ventilation	m^3/min	9
Heating capacity	kW	16
Air conditioning (optional)	kW	7.5

		L120H
Emergency exit: Use emergency hammer to break window		
Sound level in cab according to ISO 6396/SAE J2105	dB(A)	68
External sound level according to ISO 6395/SAE J2104	dB(A)	106
Ventilation	m^3/min	9
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.

		L110H
Lift cylinders		2
Cylinder bore	mm	150
Piston rod diameter	mm	80
Stroke	mm	676
Tilt cylinder		1
Cylinder bore	mm	210
Piston rod diameter	mm	110
Stroke	mm	412

		L120H
Lift cylinders		2
Cylinder bore	mm	150
Piston rod diameter	mm	80
Stroke	mm	676
Tilt cylinder		1
Cylinder bore	mm	210
Piston rod diameter	mm	110
Stroke	mm	412

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.
Tilt function: The valve has three functions including rollback, hold and dump. Inductive/magnetic automatic tilt can be adjusted to the desired bucket angle.
Cylinders: Double-acting cylinders for all functions
Filter: Full flow filtration through 10 micron (absolute) filter cartridge.

		L110H	L120H
Working pressure maximum, pump 1 for working hydraulic system	MPa	27.0 ± 0.5	29.0 ± 0.5
Flow	l/min	128	128
at	MPa	10	10
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	29.0 ± 0.5	31.0 ± 0.5
Flow	l/min	128	128
at	MPa	10	10
engine speed	r/s(r/min)	32 (1 900)	32 (1 900)
Working pressure maximum, pump 3 for brake- and cooling fan system	MPa	21.0 ± 0.5	21.0 ± 0.5
Flow	l/min	33	33
at	MPa	10	10
engine speed	r/s(r/min)	32 (1 900)	32 (1 900)
Pilot system, working pressure	MPa	3.5	3.5
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	10

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.

		L110H	L120H
Steering cylinders		2	2
Cylinder bore	mm	80	80
Rod diameter	mm	50	50
Stroke	mm	486	486
Working pressure	MPa	21	21
Maximum flow	l/min	120	120
Maximum articulation	± °	40	40

Service

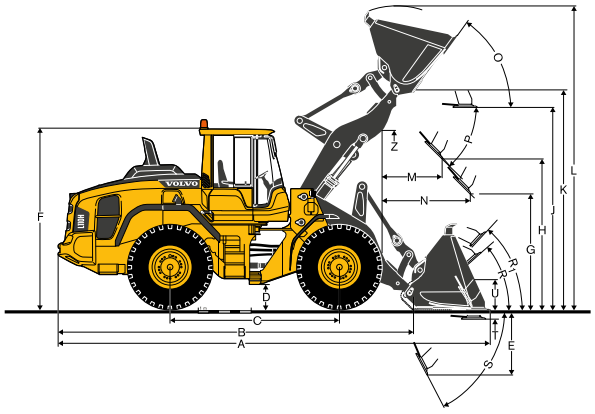
Service accessibility: Electrically openable engine hood with large opening angle giving excellent access to the engine compartment.
Fluid filters and component breather air filters promote long service intervals.
Possibility to monitor, log and analyze data to facilitate troubleshooting.

Refill capacity		L110H	L120H
Fuel tank	l	270	270
Diesel Exhaust Fluid/AdBlue®	l	24.9	24.9
Engine coolant	l	43	43
Hydraulic oil tank	l	133	133
Transmission oil	l	38	38
Engine oil	l	22	22
Axle oil front	l	36	36
Axle oil rear	l	41	41

Specifications.

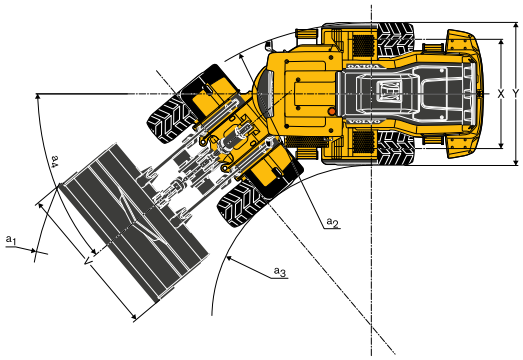
Tires 23.5 R25 L3			
		Standard boom	**Long boom**
B	mm	6 480	7 010
C	mm	3 200	3 200
D	mm	430	430
F	mm	3 380	3 380
G	mm	2 131	2 134
J	mm	3 700	4 240
K	mm	4 030	4 550
O	°	55	54
Pmax	°	50	46
R	°	40	41
R_1*	°	44	48
S	°	66	64
T	mm	98	89
U	mm	430	610
X	mm	2 070	2 070
Y	mm	2 670	2 670
Z	mm	3 310	3 820
a_2	mm	5 730	5 730
a_3	mm	3 060	3 060
a_4	±°	40	40

* Carry position SAE
Standard boom with 3.0 m³ STE H T bucket
Long boom with 2.6 m³ STE P BOE bucket

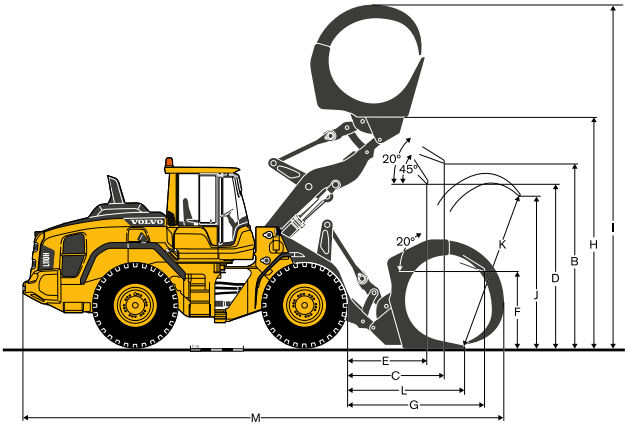


Where applicable, specifications and dimensions are according to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818.

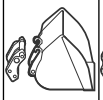
L110H
Sales code: WLA80832
Operating weight
(incl. logging cw 685 kg): 19 916 kg
Operating load: 5 850 kg



Tires: 750/65 R25		
A	m^2	2.4
B	mm	3 470
C	mm	1 850
D	mm	2 850
E	mm	1 460
F	mm	1 520
G	mm	2 720
H	mm	4 580
I	mm	6 620
J	mm	2 790
K	mm	2 990
L	mm	2 060
M	mm	8 770



L110H

Tires 23.5R25 XHA2 L3		REHANDLING		GENERAL PURPOSE				ROCK*	LIGHT MATERIAL		LONG BOOM**
		 3.5 m³ STE P BOE	 3.5 m³ STE H BOE	 3.0 m³ STE P T	 3.0 m³ STE H T	 3.4 m³ STE P BOE	 3.4 m³ STE H BOE	 2.7 m³ SPN P T SEG	 5.5 m³ LM H	 9.5 m³ LM H	
Volume, heaped ISO/SAE	m³	3.5	3.5	3.0	3.0	3.4	3.4	2.7	5.5	9.5	
Volume at 110% fill factor	m³	3.9	3.9	3.3	3.3	3.7	3.7	3.0	6.1	10.5	
Static tipping load, straight	kg	13 460	12 780	13 770	13 100	13 350	12 680	13 780	11 980	12 070	-2 540
at 35° turn	kg	11 960	11 330	12 270	11 640	11 860	11 240	12 240	10 550	10 610	-2 330
at full turn	kg	11 520	10 900	11 820	11 210	11 420	10 810	11 780	10 130	10 180	-2 270
Breakout force	kN	162.1	149.8	175.8	161.0	157.7	145.9	143.1	115.0	100.3	
A	mm	7 970	8 080	8 120	8 220	8 010	8 120	8 310	8 500	8 800	510
E	mm	1 220	1 320	1 350	1 450	1 260	1 360	1 510	1 700	1 960	-10
H	mm	2 820	2 750	2 720	2 660	2 790	2 720	2 610	2 420	2 220	510
L	mm	5 440	5 510	5 550	5 610	5 620	5 670	5 550	5 850	6 010	520
M	mm	1 170	1 250	1 260	1 350	1 200	1 280	1 400	1 520	1 730	-30
N	mm	1 710	1 750	1 750	1 800	1 730	1 770	1 810	1 800	1 820	450
V	mm	3 000	3 000	2 880	2 880	2 880	2 880	2 880	3 000	3 400	
a_1 clearance circle	mm	12 750	12 800	12 710	12 770	12 660	12 710	12 830	13 060	13 610	440
Operating weight	kg	18 490	18 730	18 360	18 560	18 560	18 760	19 560	19 100	19 320	300

* With MICHELIN 23,5R25 XMINE D2 L5 Tire

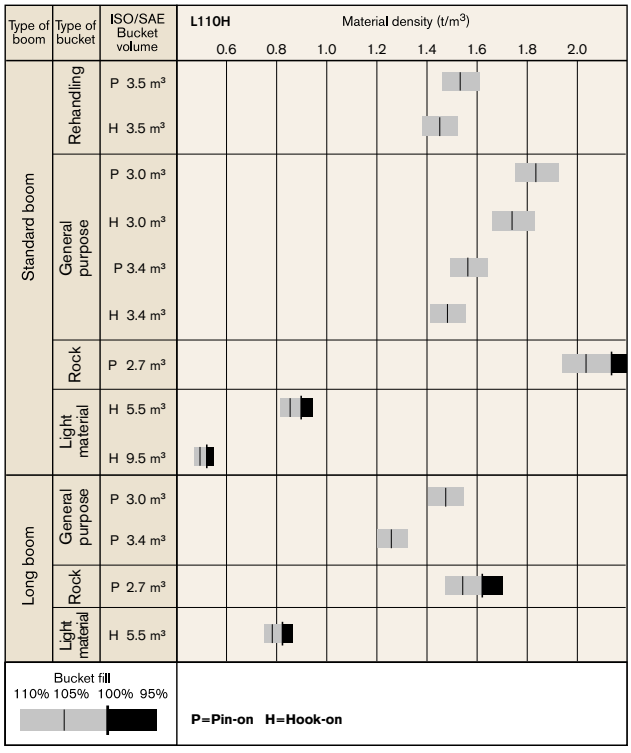
**Based on 3.0 m³ STE H T bucket

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.
Result: The 3.4 m³ bucket carries 3.6 m³. For optimum stability always consult the bucket selection chart.

Material	Bucket fill, %		Material density, t/m³	ISO/SAE bucket volume, m³	Actual volume, m³
Earth/Clay	~ 110		1.8 1.6	3.0 3.4	3.3 3.7
Sand/ Gravel	~ 105		1.8 1.6	3.0 3.4	3.2 3.6
Aggregate	~ 100		1.8 1.6	3.5	3.5
Rock	≤100		1.7	2.7	2.7

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

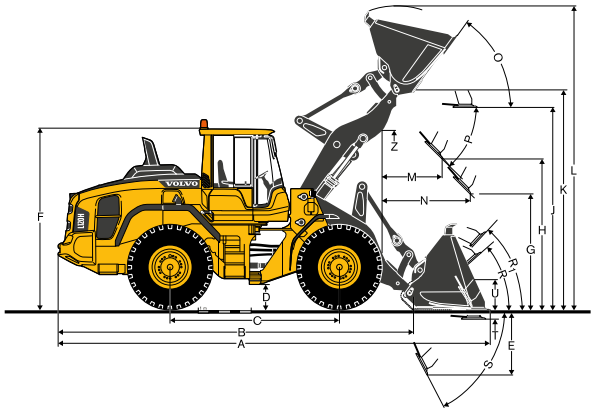
Supplemental Operating Data

		Standard boom		Long boom
Tires 23.5 R25 L3		23.5 R25 L5	750/65 R25	750/65 R25
Width over tires	mm	30	200	200
Ground clearance	mm	50	±0	±0
Tipping load, full turn	kg	490	430	310
Operating weight	kg	670	640	640

Specifications.

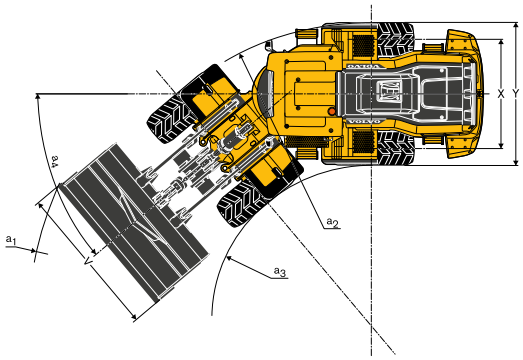
Tires 23.5 R25 L3			
		Standard boom	**Long boom**
B	mm	6 580	7 070
C	mm	3 200	3 200
D	mm	440	440
F	mm	3 380	3 380
G	mm	2 132	2 133
J	mm	3 760	4 310
K	mm	4 100	4 630
O	°	54	55
Pmax	°	50	49
R	°	42	42
R_1*	°	45	50
S	°	68	64
T	mm	119	127
U	mm	450	640
X	mm	2 070	2 070
Y	mm	2 670	2 670
Z	mm	3 340	3 720
a_2	mm	5 730	5 730
a_3	mm	3 060	3 060
a_4	±°	40	40

* Carry position SAE
Standard boom with 3.3 m³ STE H T bucket
Long boom with 2.6 m³ STE P BOE bucket

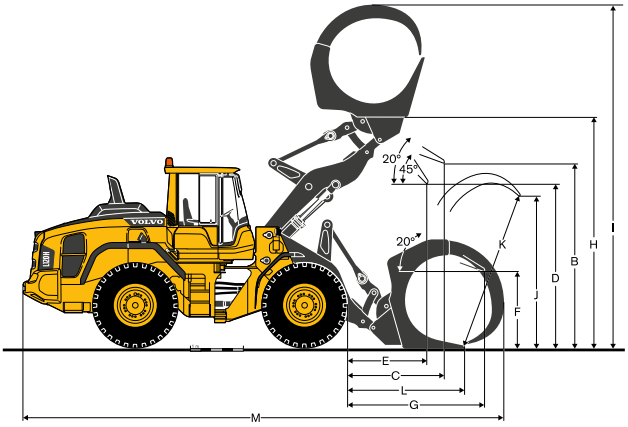


Where applicable, specifications and dimensions are according to ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818.

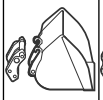
L120H
Sales code: WLA80832
Operating weight
(incl. logging cw 685 kg): 20 713 kg
Operating load: 6 400 kg



Tires: 750/65 R25		
A	m^2	2.4
B	mm	3 470
C	mm	1 850
D	mm	2 850
E	mm	1 460
F	mm	1 520
G	mm	2 720
H	mm	4 580
I	mm	6 620
J	mm	2 790
K	mm	2 990
L	mm	2 060
M	mm	8 770



L120H

Tires 23.5R25 XHA2 L3		REHANDLING		GENERAL PURPOSE				ROCK*	LIGHT MATERIAL		LONG BOOM**
		 3.8 m³ STE P BOE	 3.8 m³ STE H BOE	 3.3 m³ STE P T	 3.3 m³ STE H T	 3.6 m³ STE P BOE	 3.6 m³ STE H BOE	 3.0 m³ SPN P T SEG	 5.5 m³ LM H	 9.5 m³ LM H	
Volume, heaped ISO/SAE	m³	3.8	3.8	3.3	3.3	3.6	3.6	3.0	5.5	9.5	
Volume at 110% fill factor	m³	4.2	4.2	3.6	3.6	4.0	4.0	3.3	6.1	10.5	
Static tipping load, straight	kg	14 360	13 680	14 800	14 450	14 810	14 080	14 860	13 010	13 120	-2 680
at 35° turn	kg	12 710	12 080	13 120	12 790	13 110	12 430	13 160	11 440	11 510	-2 440
at full turn	kg	12 220	11 610	12 630	12 300	12 610	11 950	12 660	10 980	11 040	-2 370
Breakout force	kN	163.7	151.6	189.2	173.5	172.9	159.6	150.6	121.6	106.0	
A	mm	8 140	8 240	8 230	8 340	8 050	8 160	8 390	8 610	8 910	460
E	mm	1 300	1 390	1 380	1 480	1 230	1 330	1 520	1 730	1 990	-20
H	mm	2 840	2 780	2 780	2 700	2 900	2 830	2 690	2 480	2 270	560
L	mm	5 580	5 650	5 700	5 760	5 750	5 820	5 690	5 900	6 070	520
M	mm	1 250	1 330	1 310	1 390	1 190	1 280	1 440	1 560	1 760	-50
N	mm	1 820	1 870	1 840	1 880	1 800	1 840	1 930	1 890	1 910	450
V	mm	3 000	3 000	3 000	3 000	3 000	3 000	2 880	3 000	3 400	
a_1 clearance circle	mm	12 840	12 900	12 890	12 950	12 800	12 850	12 890	13 130	13 660	410
Operating weight	kg	19 370	19 590	19 280	19 460	19 420	19 640	20 260	19 900	20 120	240

* With MICHELIN 23,5R25 XMINE D2 L5 Tire

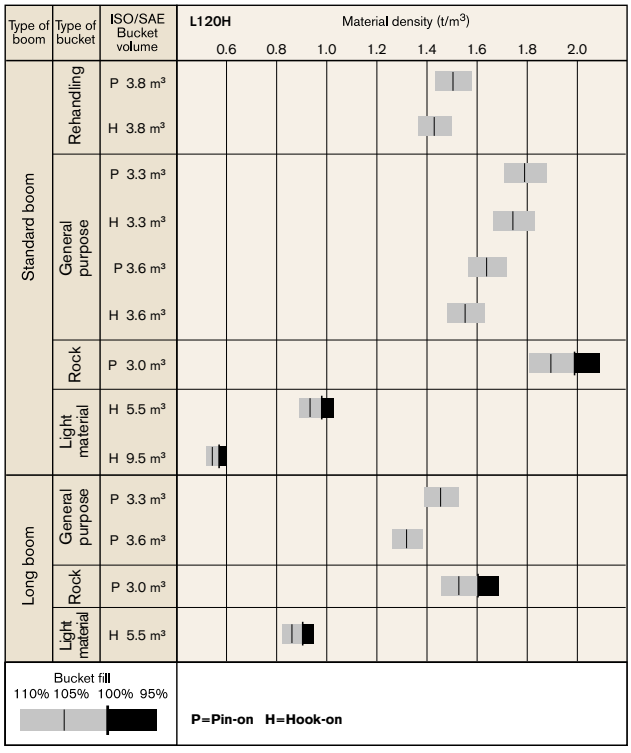
**Based on 3.3 m³ STE H T bucket

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.
Result: The 3.4 m³ bucket carries 3.6 m³. For optimum stability always consult the bucket selection chart.

Material	Bucket fill, %		Material density, t/m³	ISO/SAE bucket volume, m³	Actual volume, m³
Earth/Clay	~ 110		1.8 1.6	3.3 3.6	3.6 3.9
Sand/ Gravel	~ 105		1.8 1.6	3.3 3.6	3.5 3.8
Aggregate	~ 100		1.8 1.6	3.8	3.8
Rock	≤100		1.7	3.0	3.0

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

		Standard boom		Long boom
Tires 23.5 R25 L3		23.5 R25 L5	750/65 R25	750/65 R25
Width over tires	mm	30	200	200
Ground clearance	mm	50	±0	±0
Tipping load, full turn	kg	450	380	330
Operating weight	kg	670	640	640

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	•	•
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 24V/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 Safety Belt Warning	•	•
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	•	•
Start interlock when gear is engaged	•	•

	L110H	L120H
Drivetrain		
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.	•	•
Lock-up first gear	•	•
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 seatbelt (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	•	•

	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		
Orange hand rails	•	•
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	•	•
Fabricated counterweight	•	•
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	•	•
CareTrack, GSM, GSM/Satellite	•	•
Telematics, Subscription	•	•
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	•	•
Locking device, Tag out Lock out	•	•
Headlights, assym. left	•	•
License plate holder, lighting	•	•
Rear vision system, colour LCD monitor in the cab	•	•
Rear view mirrors, Long arm	•	•
Rear view mirrors, adjustable, el.heated, Long arm	•	•
Reduced function working lights, reverse gear activated	•	•
Reverse alarm, audible	•	•
Reverse alarm, audible, multi-frequency	•	•
Reverse warning light, strobe lighting	•	•
Shortened headlight support brackets	•	•
Side marker lamps	•	•
Warning beacon LED	•	•
Working lights halogen, attachments	•	•
Working lights LED, attachments	•	•
Working lights on cab halogen, front and rear	•	•
Working lights on cab halogen, rear		
Working lights front, extra	•	•
LED Head Light	•	•
Working lights, on cab LED, front and rear	•	•
Working lights, on cab LED, rear		
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	•	•
Load Assist	•	•
Radar detect system	•	•
Jump start connector, NATO-Type	•	•

	L110H	L120H
Cab		
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	•	•
Lunch box holder	•	•
Volvo Armrest, operator's seat, left	•	•
Operator's seat, Volvo air susp, heavy-duty, high back, heated	•	•
Operator's seat, (air seat std) 2-point seat belt	•	•
Operator's seat, (air seat std) 3-point seat belt	•	•
Radio installation kit incl. 12 volt outlet, left side	•	•
Radio installation kit incl. 12 volt outlet, right side	•	•
Radio (with AUX, Bluetooth and USB connection)	•	•
Subwoofer	•	•
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	•	•
Cab heater power outlet 240V	•	•
Drivetrain		
OptiShift transmission with Lock-up RBB	•	•
Diff lock front 100%, Limited Slip rear	•	•
Speed limiter	•	•
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	•	•
Arctic kit, attachment locking hoses	•	•
Arctic kit, for 3rd function		
Boom cylinder hose and tube guards	•	•
Hydraulic fluid, biodegradable, Volvo	•	•
Hydraulic fluid, fire-resistant	•	•
Hydraulic fluid, for hot climate	•	•
Hydraulic 3rd function	•	•
hydraulic 3rd-4th function	•	•
Hydraulic constant flow control with detent for 3rd function	•	•
Single lever control, hydraulics 2 functions	•	•
Single lever control, hydraulics 3 functions	•	•
Single lever control, hydraulics 4 functions	•	•

	L110H	L120H
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	•	•
Tow hitch	•	•
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	•	•
Windows, side and rear guards	•	•
Windshield guard	•	•
Corrosion protection, painting of machine	•	•
Corrosion protection, painting of attachment bracket	•	•
Bucket Teeth protection	•	•

	L110H	L120H
Other equipment		
CE-marking	•	•
Comfort Drive Control (CDC)	•	•
Counterweight, logging	•	•
Counterweight, signal painted, chevrons	•	•
Secondary steering with automatic test function	•	•
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	•	•
Sign, 50 km/h	•	•
Tires		
23.5 R25	•	•
750/65 R25	•	•
Attachments		
Buckets:		
Rock straight or spade nose	•	•
General purpose	•	•
Re-handling	•	•
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

Attachment bracket

Load Assist

White noise

Rotating beacon LED

Single lever control

Radar detect system

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.

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VOLVO

Volvo Construction Equipment

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