



Volvo Construction Equipment

# L150H, L180H, L220H<sup>2.0</sup>

Volvo Wheel Loaders 24.1-33.1 t / 53,130-72,970 lb 295-367 hp



## Progress is in our DNA

Since introducing our first wheel loader, Volvo has continued to refine its concept for more than half a century. Over the years, we have revolutionized our machines, bringing customers unparalleled productivity and efficiency.

1954

The world's first wheel loader to feature a parallel lift arm system and attachment bracket with quick coupler – the H10

1973

The first wheel loader with direct injected turbo engine – Volvo BM 1641

Volvo introduced the world's first truly low-emission diesel engines in construction equipment (1974)

1981

Volvo introduced the world's first automatic gear shifting system (Automatic Power Shift) and load sensing hydraulic technology

1988

Comfort Drive Control

1990

Boom suspension system

Volvo patented Torque Parallel linkage (1991)

# SMARTER, STRONGER, FASTER

The new H-series L150, L180 and L220 may boast the same striking design as each of its forerunners, but these machines have been updated with the latest innovative technology, promoting greater productivity and fuel efficiency. Ready to tackle a range of applications, enjoy the same reliability and quality you'd expect from your Volvo wheel loader and more.



2009

Volvo sets the standard for the attachment bracket (ISO 23727)

2010

OptiShift  
CareTrack

2016

Load Assist, powered by the award-winning Volvo Co-Pilot

2017

New generation OptiShift

Second generation load sensing hydraulics – Patent pending

### With you for the long run

As your trusted partner in production, Volvo is here to support you with the best equipment for the job. Boasting a comprehensive portfolio of attachments designed to complement your machines performance, as well as a range of services to boost your profitability, we'll help you tailor the perfect package to suit your business needs.



# Smarter operation

Primed for productivity, the innovative L150H, L180H and L220H loaders combine the latest Volvo technology, including second generation OptiShift, with power and upgraded features, resulting in up to 15% better fuel efficiency than the G-series.

## Up to 15% greater fuel efficiency

Do more with less fuel, the H-series machine updates offer up to 15% greater fuel efficiency than the G-series. Contributing to the increase is the powerful engine, second generation OptiShift, attachment optimization and the new dry P-Brake, which eliminates drag losses.



## Reverse By Braking

Extend the life of your machine's components and increase operator comfort with Reverse By Braking (RBB) – patented by Volvo. The braking function slows the machine when the operator wants to change direction, by reducing engine rpm and automatically applying the service brakes, reducing stress on the drivetrain.



## Power up, fuel down

For short cycle times and high fuel efficiency, the H-series wheel loaders are fitted with a powerful Volvo engine – compliant with the latest emission regulations – delivering greater output and torque than the G-series.



## Eco pedal

Save machine wear and increase fuel efficiency with the eco pedal. Uniquely designed by Volvo, the eco pedal encourages economical operation, by applying a mechanical push-back force in response to excess use of the accelerator.





# NEW GENERATION OPTISHIFT

For improved cycle times and reduced fuel consumption, customize the lock-up engagement of your machine, with new generation OptiShift. The improved technology integrates the Reverse By Braking function and the new torque converter with lock-up, creating a direct drive between the engine and transmission.



# LOAD ASSIST

Unlock the full potential of your machine's productivity with Load Assist, a dynamic load weighing system with  $\pm 2\%$  accuracy. Powered by the 10" Volvo Co-Pilot touchscreen, the system enables you to monitor the amount of material moved and easily manage work orders – the data can then be stored and accessed remotely. In addition, you can track your machine's fuel efficiency with the help of CareTrack.

# Made to move

Engineered for efficient work, the L150H, L180H and L220H are fitted with a new transmission and improved technology, resulting in up to 10% better productivity than the G-series.

## Boost your productivity by up to 10%

For ultimate stability and high efficiency, the H-series wheel loaders have been upgraded with a new transmission, which works in harmony with the engine and axels. The new converter delivers increased torque output, resulting in better performance at low speeds. For faster acceleration and smooth operation, the steps between gears have been reduced.



## Fast cycle times

Achieve shorter cycle times with next generation load sensing hydraulics, designed to enhance the responsiveness of attachments and improve the lifting and lowering speed of the boom.



## Comfortably productive

Customize your machine and ensure precise control of hydraulic functions, with the choice of single or multi levers. To get the most out of each operation, select from three hydraulic modes, according to your preferred responsiveness.



## Bucket leveling function

Take your productivity to the next level with the new bucket leveling function. Automatically return the bucket to level from both dump and curl positions, enhancing operator performance.



# Fully loaded

Get the most out of your Volvo wheel loader with a range of purpose built attachments. Form one solid and reliable unit, with attachments that are ideally matched by size and design to your machine's parameters – including link-arm geometry, breakout and lifting forces. If we don't have the right attachment, Volvo can custom build one to your specific requirements.

## Rehandling

Experience up to 5% greater productivity with a new range of Volvo Rehandling buckets. The redesigned buckets are easier to fill and minimize spillage, thanks to new convex sides and the improved spill guard. To prevent spillage and absorb shocks, opt for the Boom Suspension System, which automatically engages, depending on gear or speed selection.



## Log handling

Designed for high lifting force and tilt out force, and offering maximum stability in log handling applications, select from a choice of general purpose grapples, sorting grapples and unloading grapples.



## Slag handling

To protect you and your machine, and ensure durable performance in hot slag handling applications, Volvo offers a selection of specially-designed machine options and attachments.



## Block handling

For high lifting force and maximum stability in block handling applications, choose from a range of robust Volvo attachments, including block forks, breaker tine and clearing rakes.





*"Taking 27 tonne blocks from the quarry floor to the loading area is not a problem with the L220H."  
Giuseppe Sanna, Director of production at Marmi Daino Real, Orosei (Italy)*



# TORQUE PARALLEL LINKAGE

For strength in demanding applications, Volvo's unique Torque Parallel (TP) linkage provides high breakout torque and ultimate parallel movement throughout the entire lifting range. The linkage offers stability during loading and carrying and allows easy filling of the buckets. For long lasting performance, the lifting arm has double sealing on each of the pins.

# Strong and smart machines

## UP TO 15% GREATER FUEL EFFICIENCY

- New generation OptiShift
- Eco pedal
- Reverse By Braking
- New dry P-brake

## MAXIMIZE YOUR UPTIME

- Lifetime Frame and Structure Warranty
- Tilting cab – 30° or 70°
- Electronically-operated engine hood
- Brake wear indicators
- Outboard mounted brakes
- Replaceable breather filters

## HERE TO SUPPORT YOU

- Genuine Volvo Parts, with 24-hours delivery guarantee
- Operator training
- ActiveCare Direct

## FULLY LOADED

- Unique Torque Parallel linkage
- Block handling
- Slag handling
- Log handling
- Rehandling – up to 5% greater productivity



## BOOST YOUR PRODUCTIVITY BY UP TO 10%

- New load sensing hydraulics
- New transmission and gear ratio
- Bucket leveling function
- Load Assist
- Choice of single or multi levers

## BUILT WITH THE OPERATOR IN MIND

- New adjustable seat
- New rear view mirrors
- Choice of three hydraulic modes
- Comfort Drive Control (option)
- Radar detect system (option)
- Remote-control door opener (option)



*"I'm very pleased that we decided to go for these machines."  
Wayne Flew, Operator, Albion Stone (United Kingdom)*



# THE OPERATOR'S CHOICE

Operate in comfort from the best cab on the market, the Volvo cab can be equipped with a new adjustable seat. Access the cab safely and effortlessly using the steps and open the door with ease, thanks to the optional remote-control opener.

# Built with the operator in mind

Built with the customer, for the customer, the L150H, L180H and L220H boast a range of features to enhance your operating experience. For increased productivity, the Volvo cab can be customized to your preference.

## Visibility

To enhance visibility, the H-series wheel loaders have new rear-view mirrors and can be equipped with a rear-view camera. Optimized by the radar detect system, which works with the camera to give a visual and audible alert to the operator of unseen on-coming objects. Orange handrails and steps have been placed on the machine, intended to stand out to the operators and maintenance staff.



## Comfort Drive Control

To reduce operator fatigue and improve productivity, Comfort Drive Control can be optionally integrated into your machine. The smart function gives you the opportunity to steer the machine from a small lever – particularly effective for fast-paced truck loading operations.



## Operator training

Increase productivity and reduce fuel consumption by learning how to operate your wheel loader in the most efficient way. Volvo offers operator training, which encompasses the best practices in the industry.



# Keep moving

Offering strength in demanding applications, the L150H, L180H and L220H are built to last. Maintain the life of your machine with simple serviceability and proactive dealer support.

## Durable by design

Designed with durability in mind, the H-series wheel loaders are built with a Lifetime Frame and Structure Warranty, including the front frame, rear frame, articulation joint and loader arm. The hydraulically-driven cooling fan regulates component temperature and can be automatically reversed to permit self-cleaning of the cooling units. For long service life, the brakes are outboard mounted and the front and rear axles are cooled by the oil circulation.



## ActiveCare Direct

Maximize machine uptime and reduce repair costs with ActiveCare Direct. The intelligent service provides predictive and preventative maintenance and around the clock machine monitoring, as well as customer reports.



## Here to support you

Maintain productivity and machine uptime with our range of Genuine Volvo Parts – all backed by Volvo warranty, with 24-hour parts delivery guarantee. We're here to help you stay on track, offering flexible maintenance and repair plans.





*"We have chosen Volvo machines based on quality, trust and service."  
Gerard den Hartog, CEO, Gebroeders Den Hartog (Netherlands)*



# INDUSTRY LEADING SERVICEABILITY

For simple serviceability, the Volvo cab can be tilted to either a 30° or 70° angle, and the engine hood is operated electronically. Stay one step ahead and check the condition of your brakes using the brake wear indicators, placed on the wheels. To prevent dirt and moisture from entering components, each has replaceable breather filters, located remotely.

# Volvo L150H, L180H, L220H in detail

## Engine

V-ACT Stage IV/Tier 4F 13 liter, 6-cylinder straight turbocharged diesel engine with 4 valves per cylinder, overhead camshaft and electronically controlled unit injectors. The engine has wet replaceable cylinder liners and replaceable valve guides and valve seats. The throttle applications is transmitted electrically from the throttle pedal or the optional hand throttle.

Air Cleaning: 2 stages.

Cooling system: Hydrostatic, electronically controlled fan and intercooler of the air-to-air type.

## L150H

Engine	Volvo	D13J
Max. power at	r/min (r/s)	1,300 (21.7)
SAE J1995 gross	kW (hp)	220 (295)
ISO 9249, SAE J1349 net	kW (hp)	220 (295)
Max. torque at	r/min (r/s)	1,000 (16.7)
SAE J1995 gross	Nm (ft lbf)	1,960 (1,446)
ISO 9249, SAE J1349 net	Nm (ft lbf)	1,957 (1,443)
Economic working range	r/min (r/s)	800 - 1,600 (13.3 - 26.7)
Displacement	l (in <sup>3</sup> )	12.8 (781)

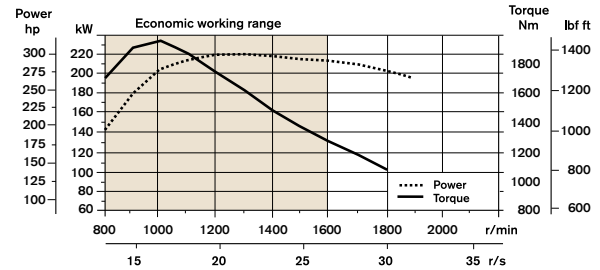
## L180H

Engine	Volvo	D13J
Max. power at	r/min (r/s)	1,300 - 1,400 (21.7 - 23.3)
SAE J1995 gross	kW (hp)	246 (330)
ISO 9249, SAE J1349 net	kW (hp)	245 (329)
Max. torque at	r/min (r/s)	1,000 (16.7)
SAE J1995 gross	Nm (ft lbf)	2,030 (1,497)
ISO 9249, SAE J1349 net	Nm (ft lbf)	2,024 (1,493)
Economic working range	r/min (r/s)	800 - 1,600 (13.3 - 26.7)
Displacement	l (in <sup>3</sup> )	12.8 (781)

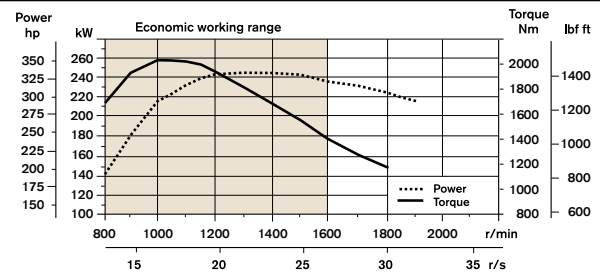
## L220H

Engine	Volvo	D13J
Max. power at	r/min (r/s)	1,300 - 1,400 (21.7 - 23.3)
SAE J1995 gross	kW (hp)	274 (367)
ISO 9249, SAE J1349 net	kW (hp)	273 (366)
Max. torque at	r/min (r/s)	1,100 (18.3)
SAE J1995 gross	Nm (ft lbf)	2,231 (1,645)
ISO 9249, SAE J1349 net	Nm (ft lbf)	2,220 (1,637)
Economic working range	r/min (r/s)	800 - 1,600 (13.3 - 26.7)
Displacement	l (in <sup>3</sup> )	12.8 (781)

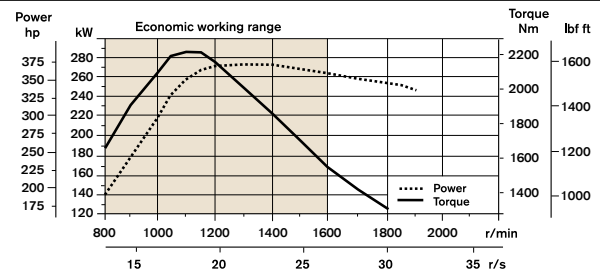
## L150H



## L180H



## L220H



## 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. Torque converter with lockup.

**Transmission:** Volvo Automatic Power Shift (APS) with fully automatic shifting 1-4 and mode selector with 4 different gear shifting programs, including AUTO.

**Axles:** Volvo fully floating drive shafts with planetary hub reductions and nodular iron axle housing. Fixed front axle and oscillating rear axle. 100% differential lock on the front axle. Optional: Limsip rear.

		L150H	L180H	L220H
Transmission	Volvo	HTL 223	HTL 223	HTL 310
Torque multiplication, stall ratio		2.09:1	2.09:1	2.02:1
Maximum speed, forward/reverse				
1st gear	km/h (mi/h)	6.1 (3.8)	6.1 (3.8)	6.7 / 6.6 (4.2 / 4.1)
2nd gear	km/h (mi/h)	12.6 (7.8)	12.6 (7.8)	11.6 / 11.4 (7.2 / 7.1)
3rd gear	km/h (mi/h)	23.5 (14.6)	23.5 (14.6)	21.7 / 21.4 (13.5 / 13.3)
4th gear	km/h (mi/h)	38 (23.6)	38 (23.6)	36.5 / 36.1 (22.7 / 22.4)
Measured with tires		26.5 R25 L3	26.5 R25 L3	29.5 R25 L4
Front axle/rear axle		Volvo/AWB 40B/40C	Volvo/AWB 40B/40B	Volvo/AWB 50/41
Rear axle oscillation	± °	15	15	15
Ground clearance at oscillation	mm (in)	610 (24)	610 (24)	600 (23.6)
	°	15	15	15

## 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.

		L150H	L180H	L220H
Voltage	V	24	24	24
Batteries	V	2 x 12	2 x 12	2 x 12
Battery capacity	Ah	2 x 170	2 x 170	2 x 170
Cold cranking capacity, approx	A	1,000	1,000	1,000
Alternator rating	W/A	2,280/80	2,280/80	2,280/80
Starter motor output	kW	7	7	7

## Brake System

**Service brake:** Volvo dual-circuit system with nitrogen charged accumulators. Outboard mounted hydraulically operated, fully sealed oil circulation-cooled wet disc brakes. The operator can select automatic disengagement of the transmission when braking using Contronic.

**Parking brake:** Dry disc brake. Applied by spring force, electro-hydraulic release with a switch on the instrument panel.

**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.

		L150H	L180H	L220H
Number of brake discs per wheel front/rear		1/1	1/1	2/1
Accumulators	l (gal)	2 x 1.0 + 3 x 0.5 (2 x 0.26 + 3 x 0.13)	2 x 1.0 + 1 x 0.5 (2 x 0.26 + 1 x 0.13)	2 x 1.0 + 1 x 0.5 (2 x 0.26 + 1 x 0.13)

## 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 11 speeds. 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), FOPS (ISO 3449). The cab meets with requirements according to ISO 6055 (Operator overhead protection - Industrial trucks) and SAE J386 ("Operator Restraint System").

Refrigerant of the type R134a is used when this machine is equipped with air conditioning. Contains fluorinated greenhouse gas R134a, Global Warming Potential 1.430 t CO2-eq

		L150H	L180H	L220H
Emergency exit:	Use emergency hammer to break window			
Ventilation	m <sup>3</sup> /min (yd <sup>3</sup> /min)	9 (11.8)	9 (11.8)	9 (11.8)
Heating capacity	kW	16	16	16
Air conditioning (optional)	kW	7.5	7.5	7.5

## Lift Arm System

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

		L150H	L180H	L220H
Lift cylinders		2	2	2
Cylinder bore	mm (in)	160 (6.3)	180 (7.1)	190 (7.5)
Piston rod diameter	mm (in)	90 (3.5)	90 (3.5)	90 (3.5)
Stroke	mm (in)	784 (30.9)	788 (31)	768 (30.2)
Tilt cylinder		1	1	1
Cylinder bore	mm (in)	220 (8.7)	240 (9.4)	250 (9.8)
Piston rod diameter	mm (in)	110 (4.3)	120 (4.7)	120 (4.7)
Stroke	mm (in)	452 (17.8)	480 (18.9)	455 (17.9)

# Volvo L150H, L180H, L220H in detail

## Hydraulic system

**System supply:** Two load-sensing axial piston pumps with variable displacement. The steering function always has priority.  
**Valves:** Double-acting 2-spool valve. The main valve is electro operated.  
**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.

		L150H	L180H	L220H
Working pressure maximum, pump 1 for working hydraulic system	MPa (bar)	29 (290)	29 (290)	29 (290)
Flow	l/min (gal/min)	180 (47.6)	217 (57.3)	252 (66.6)
at engine speed	MPa (bar)	10 (100)	10 (100)	10 (100)
	r/min (r/s)	1,900 (31.7)	1,900 (31.7)	1,900 (31.7)
Working pressure maximum, pump 2 for steering-, brake-, pilot- and working hydraulic system	MPa (bar)	31 (310)	31 (310)	31 (310)
Flow	l/min (gal/min)	202 (53.4)	202 (53.4)	202 (53.4)
at engine speed	MPa (bar)	10 (100)	10 (100)	10 (100)
	r/min (r/s)	1,900 (31.7)	1,900 (31.7)	1,900 (31.7)
Working pressure maximum, pump 3 for brake- and cooling fan system	MPa (bar)	25 (250)	25 (250)	25 (250)
Flow	l/min (gal/min)	83 (21.9)	83 (21.9)	83 (21.9)
at engine speed	MPa (bar)	10 (100)	10 (100)	10 (100)
	r/min (r/s)	1,900 (31.7)	1,900 (31.7)	1,900 (31.7)
Pilot system, working pressure	MPa (bar)	3.5 (35)	3.5 (35)	3.5 (35)
Cycle times				
Lift	s	5.9	6.4	6.8
Tilt	s	2	1.8	1.6
Lower, empty	s	3.7	3.3	3.2
Total cycle time	s	11.6	11.5	11.6

## 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.

		L150H	L180H	L220H
Steering cylinders		2	2	2
Cylinder bore	mm (in)	100 (3.9)	100 (3.9)	100 (3.9)
Rod diameter	mm (in)	60 (2.4)	60 (2.4)	60 (2.4)
Stroke	mm (in)	390 (15.4)	525 (20.7)	525 (20.7)
Working pressure	MPa (bar)	21 (210)	21 (210)	21 (210)
Maximum flow	l/min (gal/min)	202 (53.4)	202 (53.4)	202 (53.4)
Maximum articulation	± °	37	37	37

## Service Refill

**Service accessibility:** Large, easy-to-open hood covering whole engine department, electrically operated. Fluid filters and component breather air filters promote long service intervals. Possibility to monitor, log and analyze data to facilitate troubleshooting.

		L150H	L180H	L220H
Fuel tank	l (gal)	366 (96.7)	366 (96.7)	366 (96.7)
DEF/AdBlue® tank	l (gal)	31 (8.2)	31 (8.2)	31 (8.2)
Engine coolant	l (gal)	55 (14.5)	55 (14.5)	55 (14.5)
Hydraulic oil tank	l (gal)	156 (41.2)	156 (41.2)	226 (59.7)
Transmission oil	l (gal)	48 (12.7)	48 (12.7)	48 (12.7)
Engine oil	l (gal)	50 (13.2)	50 (13.2)	50 (13.2)
Axle oil front	l (gal)	46 (12.2)	46 (12.2)	77 (20.3)
Axle oil rear	l (gal)	55 (14.5)	55 (14.5)	71 (18.8)

## Sound Level

		L150H	L180H	L220H
Sound level in cab according to ISO 6396/SAE J2105				
LpA	dB(A)	69	70	70
External sound level according to ISO 6395/SAE J2104				
LwA	dB(A)	108	108	109

# Specifications

## Tires L150H, L180H: 26.5 R25 L3. Tires L220H: 29.5 R25 L4

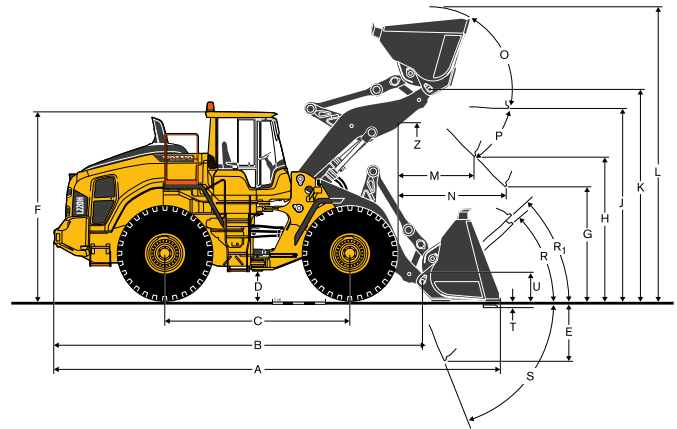
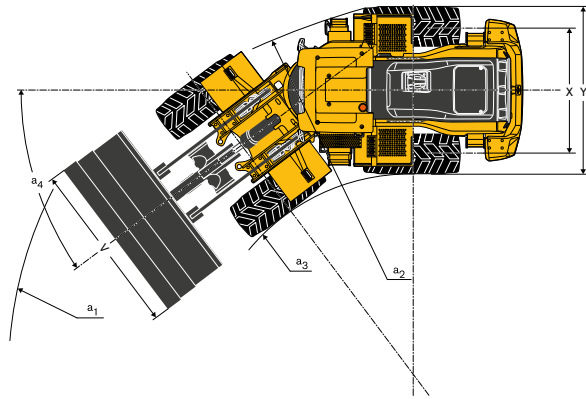
	Standard boom						Long boom							
	L150H		L180H		L220H		L150H		L180H		L220H			
B	mm	ft in	7,070	23'3"	7,190	23'7"	7,480	24'6"	7,570	24'10"	7,620	25'0"	7,800	25'7"
C	mm	ft in	3,550	11'8"	3,550	11'8"	3,700	12'2"	3,550	11'8"	3,550	11'8"	3,700	12'2"
D	mm	ft in	480	1'7"	480	1'7"	530	1'9"	470	1'7"	490	1'7"	530	1'9"
F	mm	ft in	3,580	11'9"	3,580	11'9"	3,730	12'3"	3,570	11'9"	3,590	11'9"	3,730	12'3"
G	mm	ft in	2,134	7'0"	2,134	7'0"	2,135	7'0"	2,157	7'1"	2,133	7'0"	2,133	7'0"
J	mm	ft in	3,920	12'10"	4,060	13'4"	4,230	13'11"	4,490	14'9"	4,560	14'11"	4,600	15'1"
K	mm	ft in	4,340	14'3"	4,470	14'8"	4,660	15'3"	4,900	16'1"	4,970	16'4"	5,020	16'6"
O	°		58		57		56		59		55		56	
P <sub>max</sub>	°		50		49		48		49		49		48	
R	°		45		45		43		48		48		44	
R <sub>1</sub> *	°		48		48		47		53		53		49	
S	°		66		71		65		61		63		63	
T	mm	ft in	93	0'3.7"	131	0'5.1"	119	0'4.7"	149	0'5.9"	207	0'8.2"	121	0'4.8"
U	mm	ft in	520	1'9"	570	1'10"	600	2'0"	640	2'1"	660	2'2"	680	2'3"
X	mm	ft in	2,280	7'6"	2,280	7'6"	2,400	7'10"	2,280	7'6"	2,280	7'6"	2,400	7'10"
Y	mm	ft in	2,960	9'9"	2,960	9'9"	3,150	10'4"	2,960	9'9"	2,960	9'9"	3,150	10'4"
Z	mm	ft in	3,510	11'6"	3,810	12'6"	4,050	13'3"	3,960	13'0"	4,180	13'8"	4,380	14'5"
a <sub>2</sub>	mm	ft in	6,790	22'3"	6,790	22'3"	7,100	23'4"	6,790	22'3"	6,790	22'3"	7,100	23'4"
a <sub>3</sub>	mm	ft in	3,820	12'7"	3,820	12'7"	3,960	13'0"	3,820	12'7"	3,820	12'7"	3,960	13'0"
a <sub>4</sub>	±°		37		37		37		37		37		37	

\* Carry position SAE

Bucket: L150H: 4.0 m<sup>3</sup> (5.2 yd<sup>3</sup>) GP STE P T SEG

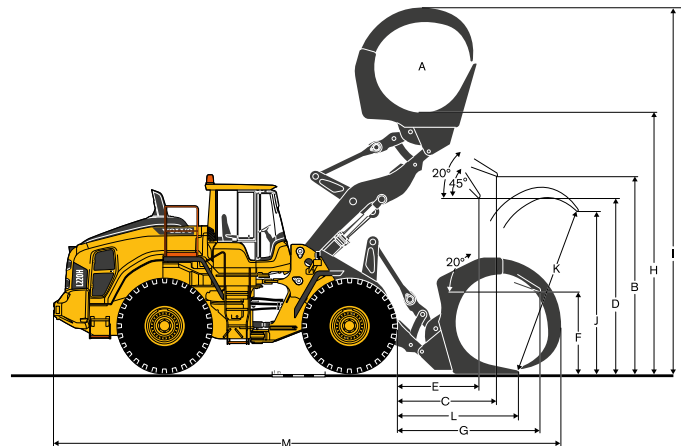
L180H: 4.6 m<sup>3</sup> (6.0 yd<sup>3</sup>) GP STE P T SEG

L220H: 5.2 m<sup>3</sup> (6.8 yd<sup>3</sup>) GP STE P T SEG



## Tires L150H, L180H: 775/65 R29 L3 | Tires L220H: 875/65 R29 L4

	L150H		L180H		L220H			
A	m <sup>2</sup>	yd <sup>2</sup>	3.1	3.7	3.5	4.2	4	4.8
B	mm	in	3,660	144.1	3,870	152.4	3,920	154.3
C	mm	in	2,110	83.1	2,150	84.6	2,270	89.4
D	mm	in	2,960	116.5	3,150	124.0	3,160	124.4
E	mm	in	1,650	65.0	1,720	67.7	1,780	70.1
F	mm	in	1,630	64.2	1,700	66.9	1,640	64.6
G	mm	in	2,930	115.4	3,040	119.7	3,230	127.2
H	mm	in	4,990	196.5	5,170	203.5	5,350	210.6
I	mm	in	7,270	286.2	7,610	299.6	7,730	304.3
J	mm	in	3,080	121.3	3,370	132.7	3,620	142.5
K	mm	in	3,340	131.5	3,710	146.1	3,940	155.1
L	mm	in	2,290	90.2	2,410	94.9	2,630	103.5
M	mm	in	9,680	381.1	9,980	392.9	10,380	408.7



**L150H** Sales code: WLA80713

Operating weight (incl. logging cw 1,140 kg (2,513 lb)):  
25,660 kg (56,571 lb)

Operating load: 7,700 kg (16,976 lb)

**L180H** Sales code: WLA80027

Operating weight (incl. logging cw 1,140 kg (2,513 lb)):  
28,470 kg (62,766 lb)

Operating load: 8,710 kg (19,202 lb)

**L220H** Sales code: WLA80852

Operating weight (incl. logging cw 870 kg (1,918 lb)):  
32,810 kg (7,334 lb)

Operating load: 10,080 kg (22,223 lb)

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

# Specifications

## L150H

Tires Michelin 26.5 R25 XHA2 L3	REHANDLING**								GENERAL PURPOSE**				ROCK***		LIGHT MATERIAL**		WLA86749 <b>LONG BOOM**</b>
	WLA86748	WLA86749	WLA86752	WLA86754	WLA93705	WLA93724	WLA93714	WLA93724									
	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> ) STE P BOE	4.4 m <sup>3</sup> (5.8 yd <sup>3</sup> ) STE P BOE	4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> ) STE P BOE	5.2 m <sup>3</sup> (6.8 yd <sup>3</sup> ) STE P BOE	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> ) STE P T SEG	4.4 m <sup>3</sup> (5.8 yd <sup>3</sup> ) STE P T SEG	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> ) STE H T SEG	3.5 m <sup>3</sup> (4.6 yd <sup>3</sup> ) SPN P T SEG	6.8 m <sup>3</sup> (8.9 yd <sup>3</sup> ) LM P								
Volume, heaped ISO/SAE	m <sup>3</sup> yd <sup>3</sup>	4.0 5.2	4.4 5.8	4.8 6.3	5.2 6.8	4.0 5.2	4.4 5.8	4.0 5.2	3.5 4.6	6.8 8.9	4.4 5.8						
Volume at 110% fill factor	m <sup>3</sup> yd <sup>3</sup>	4.4 5.8	4.8 6.3	5.3 6.9	5.7 7.5	4.4 5.8	4.8 6.3	4.4 5.8	3.9 5	7.5 9.8	4.8 6.3						
Static tipping load, straight	kg lb	20,190 44,530	20,000 44,100	19,770 43,600	19,660 43,360	20,310 44,790	19,930 43,940	19,560 43,130	18,820 41,500	19,410 42,800	-3,880 -7,826						
at 35° turn	kg lb	18,020 49,720	17,830 39,310	17,610 38,830	17,500 38,580	18,150 40,020	17,770 39,180	17,440 38,460	16,810 37,070	17,290 38,120	-3,560 -7,209						
at full turn	kg lb	17,770 39,180	17,580 38,760	17,360 38,220	17,250 38,040	17,900 39,480	17,520 38,630	17,200 37,920	16,580 36,570	17,040 37,580	-3,520 -7,121						
Breakout force	kN lbf	201.2 45,240	191.5 43,050	183.2 41,190	182.6 41,060	202 45,350	192.4 43,260	189.6 42,640	188.4 42,370	146.6 32,960	9 2,023						
A	mm ft in	8,600 28'2"	8,660 28'5"	8,730 28'8"	8,740 28'8"	8,810 28'11"	8,890 29'2"	8,930 29'3"	8,880 29'2"	9,120 29'11"	520 18"						
E	mm ft in	1,230 4'0"	1,300 4'3"	1,360 4'6"	1,370 4'6"	1,430 4'8"	1,500 4'11"	1,520 5'0"	1,480 4'10"	1,710 5'7"	10 -0.4"						
H	mm ft in	3,030 9'11"	2,970 9'9"	2,920 9'7"	2,920 9'7"	2,870 9'5"	2,820 9'3"	2,800 9'2"	2,840 9'4"	2,620 8'7"	570 1'10"						
L	mm ft in	5,810 18'1"	5,890 19'0"	5,960 19'7"	5,960 19'7"	5,880 19'4"	5,990 19'8"	6,040 19'10"	5,980 19'8"	6,090 20'0"	570 1'10"						
M	mm ft in	1,220 4'0"	1,270 4'2"	1,320 4'4"	1,320 4'4"	1,380 4'6"	1,430 4'8"	1,450 4'9"	1,420 4'8"	1,560 5'2"	-25 -0.1"						
N	mm ft in	1,800 5'11"	1,830 6'0"	1,860 6'1"	1,860 6'1"	1,900 6'3"	1,920 6'4"	1,930 6'4"	1,910 6'3"	1,940 6'4"	450 1'6"						
V	mm ft in	3,200 12'5"	3,200 12'5"	3,200 12'5"	3,400 13'3"	3,200 12'5"	3,200 12'5"	3,000 11'8"	3,230 12'7"	3,200 12'5"	0 -						
a <sub>1</sub> clearance circle	mm ft in	14,640 48'0"	14,670 48'2"	14,700 48'3"	14,890 48'10"	14,740 48'4"	14,770 48'6"	14,600 47'11"	14,810 48'7"	14,900 48'10"	340 1'1"						
Operating weight	kg lb	25,210 55,590	25,340 55,870	25,490 56,200	25,590 56,420	25,200 55,570	25,540 56,320	25,530 56,280	25,570 56,390	25,660 56,580	410 904						

Note: This only applies to genuine Volvo attachments.

\*\*\*) Calculated with the rehandling counterweight included.

\*\*\*) Calculated with L5 Tires (No additional counterweight)

### 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/m<sup>3</sup>. Result: The 4.0 m<sup>3</sup> bucket carries 4.2 m<sup>3</sup>. For optimum stability always consult the bucket selection chart.

Material	Bucket fill, %	Material density		ISO/SAE bucket volume		Actual volume	
		t/m <sup>3</sup>	lb/yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>
Earth/Clay	~ 110	~ 1.6	~ 2,698	4.0	5.2	~ 4.4	~ 5.8
		~ 1.5	~ 2,530	4.4	5.8	~ 4.8	~ 6.3
Sand/Gravel	~ 105	~ 1.6	~ 2,698	4.0	5.2	~ 4.2	~ 5.5
		~ 1.5	~ 2,530	4.4	5.8	~ 4.6	~ 6.0
Aggregate	~ 100	~ 1.8	~ 3,035	4.4	5.8	~ 4.4	~ 5.8
		~ 1.7	~ 2,867	4.8	6.3	~ 4.8	~ 6.3
		~ 1.5	~ 2,530	5.2	6.8	~ 5.2	~ 6.8
Rock	≤ 100	~ 1.7	~ 2,867	3.5	4.6	~ 3.5	~ 4.6

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

Type of boom	Type of bucket	ISO/SAE Bucket volume	Material density: t/m <sup>3</sup> (lb/yd <sup>3</sup> )					
			0.8 (1349)	1.0 (1666)	1.2 (2024)	1.4 (2361)	1.6 (2698)	1.8 (3035)
Standard boom	Rehandling*	4.4 m <sup>3</sup> (5.8 yd <sup>3</sup> )					4.6 (6.0)	4.4 (5.8)
		4.8 m <sup>3</sup> (6.3 yd <sup>3</sup> )				5.0 (6.5)	4.8 (6.3)	
	5.2 m <sup>3</sup> (6.8 yd <sup>3</sup> )			5.5 (7.2)	5.2 (6.8)			
	General purpose	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )					4.4 (5.8)	4.0 (5.2)
Long boom	Rehandling*	4.0 m <sup>3</sup> (5.2 yd <sup>3</sup> )					4.2 (5.5)	4.0 (5.2)
		4.4 m <sup>3</sup> (5.8 yd <sup>3</sup> )				4.6 (6.0)	4.4 (5.8)	
	General purpose	3.7 m <sup>3</sup> (4.8 yd <sup>3</sup> )			4.1 (5.4)	3.7 (4.8)		
	Rock	3.5 m <sup>3</sup> (4.6 yd <sup>3</sup> )					3.5 (4.6)	3.3 (4.3)
Light material	6.8 m <sup>3</sup> (8.9 yd <sup>3</sup> )	6.8 (8.9)						
	6.8 m <sup>3</sup> (8.9 yd <sup>3</sup> )	6.8 (8.9)						

How to read bucket fill factor

\* Including counterweight

### Supplemental Operating Data

Tires 26.5 R25 L3	Standard boom							Long boom						
	26.5 R25 L4	26.5 R25 L5	775/65 R29 L3	26.5 R25 L4	26.5 R25 L5	775/65 R29 L3	26.5 R25 L4	26.5 R25 L5	775/65 R29 L3					
Width over tires	mm in	+5 +0.2	+30 +1.2	+180 +7.1	+5 +0.2	+30 +1.2	+180 +7.1	+5 +0.2	+30 +1.2	+180 +7.1				
Ground clearance	mm in	+18 +0.7	+30 +1.2	+10 +0.4	+18 +0.7	+30 +1.2	+10 +0.4	+18 +0.7	+30 +1.2	+10 +0.4				
Tipping load, full turn	kg lb	+250 +551	+760 +1676	+590 +1,300	+220 +485	+640 +1,411	+500 +1,102	+220 +485	+640 +1,411	+500 +1,102				
Operating weight	kg lb	+400 +882	+1,060 +2,337	+760 +1,676	+400 +882	+1,050 +2,315	+750 +1,653	+400 +882	+1,050 +2,315	+750 +1,653				

**L180H**

Tires Michelin 26.5 R25 XHA2 L3	REHANDLING**								GENERAL PURPOSE**						ROCK***		LIGHT MATERIAL**		WLA86754  LONG BOOM**
	WLA86752	WLA86754	WLA86755	WLA86756	WLA87106	WLA87113	WLA87118	WLA85411											
	4.8 m³ (6.3 yd³) STE P BOE	5.2 m³ (6.8 yd³) STE P BOE	5.5 m³ (7.2 yd³) STE P BOE	5.8 m³ (7.6 yd³) STE P BOE	4.4 m³ (5.8 yd³) STE P T SEG	4.6 m³ (6.0 yd³) STE P T SEG	4.8 m³ (6.3 yd³) STE P T SEG	4.2 m³ (5.5 yd³) SPN P T SEG	7.8 m³ (10.2 yd³) LM P										
Volume, heaped ISO/SAE	m³ yd³	4.8 6.3	5.2 6.8	5.5 7.2	5.8 7.6	4.4 5.8	4.6 6	4.8 6.3	4.2 5.5	7.8 10.2	5.2 6.8								
Volume at 110% fill factor	m³ yd³	5.3 6.9	5.7 7.5	6.1 7.9	6.4 8.3	4.8 6.3	5.1 6.6	5.3 6.9	4.6 6	8.6 11.2	5.7 7.5								
Static tipping load, straight at 35° turn	kg lb	23,520 51,850	23,400 51,600	23,230 51,230	23,090 50,900	23,830 52,550	23,640 52,120	23,550 51,940	22,260 49,090	22,570 49,760	-4,070 -8,970								
at full turn	kg lb	20,870 46,020	20,760 45,760	20,600 45,410	20,450 45,090	21,200 46,750	21,000 46,300	20,920 46,120	19,770 43,590	19,980 44,060	-3,710 -8,160								
Breakout force	kN lbf	224.8 50,550	224.2 50,400	216.2 48,610	210.0 47,230	236.1 53,080	231.9 52,140	226.5 50,940	212.9 47,860	173.4 39,000	3.4 850								
A	mm ft in	8,900 29'2"	8,900 29'2"	8,970 29'5"	9,020 29'7"	9,050 29'8"	9,080 29'9"	9,120 29'11"	9,160 30'1"	9,360 30'9"	470 1'6"								
E	mm ft in	1,430 4'8"	1,430 4'8"	1,490 4'11"	1,540 5'1"	1,560 5'2"	1,590 5'3"	1,630 5'4"	1,660 5'5"	1,860 6'1"	30 0'2"								
H**)	mm ft in	3,060 10'0"	3,050 10'0"	3,010 9'11"	2,980 9'9"	2,960 9'9"	2,940 9'8"	2,910 9'7"	2,900 9'6"	2,700 8'10"	490 1'8"								
L	mm ft in	6,100 20'0"	6,100 20'0"	6,160 20'3"	6,210 20'5"	6,100 20'0"	6,150 20'2"	6,180 20'3"	6,320 20'9"	6,300 20'8"	490 1'8"								
M**)	mm ft in	1,330 4'4"	1,340 4'5"	1,370 4'6"	1,410 4'8"	1,440 4'9"	1,460 4'10"	1,490 4'11"	1,510 4'11"	1,610 5'4"	20 0'6"								
N**)	mm ft in	1,960 6'5"	1,960 6'5"	1,990 6'7"	2,010 6'7"	2,030 6'8"	2,040 6'8"	2,050 6'9"	2,070 6'9"	2,060 6'9"	410 1'4"								
V	mm ft in	3,200 12'5"	3,400 13'3"	3,400 13'3"	3,400 13'3"	3,200 12'5"	3,200 12'5"	3,200 12'5"	3,230 12'7"	3,400 13'3"	0 0								
a1 clearance circle	mm ft in	14,800 48'7"	14,990 49'2"	15,010 49'3"	15,040 49'4"	14,880 48'10"	14,880 48'10"	14,900 48'11"	14,960 49'1"	15,220 49'11"	290 1'0"								
Operating weight	kg lb	28,090 61,940	28,190 62,150	28,300 62,390	28,380 62,590	28,060 61,870	28,120 62,000	28,170 62,120	28,490 62,820	28,570 62,990	310 690								

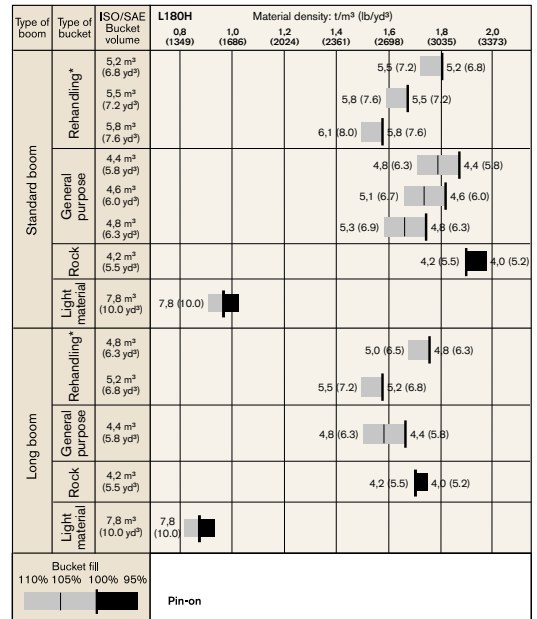
Note: This only applies to genuine Volvo attachments.No  
 \*\*) Calculated with the rehandling counterweight included.  
 \*\*\*) Calculated with L5 Tires (No additional counterweight)

**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 4.6 m³ bucket carries 4.8 m³. For optimum stability always consult the bucket selection chart

Material	Bucket fill, %	Material density		ISO/SAE bucket volume		Actual volume	
		t/m³	lb/yc³	m³	yd³	m³	yd³
Earth/Clay	~ 110	~ 1.7	~ 2,867	4.9	6.4	~ 4.8	~ 6.3
		~ 1.6	~ 2,698	5.2	6.8	~ 5.1	~ 6.7
		~ 1.5	~ 2,530	5.4	7.1	~ 5.3	~ 6.9
Sand/Gravel	~ 105	~ 1.7	~ 2,867	4.4	5.8	~ 4.6	~ 6.0
		~ 1.6	~ 2,698	4.6	6.0	~ 4.8	~ 6.3
		~ 1.5	~ 2,530	4.8	6.3	~ 5.1	~ 6.7
Aggregate	~ 100	~ 1.8	~ 3,035	5.2	6.8	~ 5.2	~ 6.8
		~ 1.7	~ 2,867	5.5	7.2	~ 5.5	~ 7.2
		~ 1.6	~ 2,698	5.8	7.6	~ 5.8	~ 7.6
Rock	≤ 100	~ 1.7	~ 2,867	4.3	5.6	~ 4.3	~ 5.6

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

\* Including counterweight

**Supplemental Operating Data**

Tires 26.5 R25 L3	Standard boom							Long boom						
	26.5 R25 L4	26.5 R25 L5	775/65 R29 L3	26.5 R25 L4	26.5 R25 L5	775/65 R29 L3	26.5 R25 L4	26.5 R25 L5	775/65 R29 L3					
Width over tires	mm in	+5 +0.2	+30 +1.2	+130 +5.1	+5 +0.2	+30 +1.2	+130 +5.1	+5 +0.2	+30 +1.2	+130 +5.1				
Ground clearance	mm in	+18 +0.7	+40 +1.6	+10 +0.4	+18 +0.7	+40 +1.6	+10 +0.4	+18 +0.7	+40 +1.6	+10 +0.4				
Tipping load, full turn	kg lb	+280 +617	+770 +30.3	+600 +23.6	+250 +551	+760 +29.9	+530 +20.9	+250 +551	+760 +29.9	+530 +20.9				
Operating weight	kg lb	+400 +882	+1,050 +2315	+920 +36.2	+400 +882	+1,050 +2315	+1,120 +44.1	+400 +882	+1,050 +2315	+1,120 +44.1				

# Specifications

## L220H

Tires Michelin 29.5 R25 XHA2 L3	REHANDLING**								GENERAL PURPOSE**						ROCK***		LIGHT MATERIAL**		WLA86760  LONG BOOM**			
	WLA86759	WLA86760	WLA86761	WLA86779	WLA87132	WLA87135	WLA87137	WLA85417														
	5.6 m <sup>3</sup> (7.3 yd <sup>3</sup> ) STE P BOE	5.9 m <sup>3</sup> (7.7 yd <sup>3</sup> ) STE P BOE	6.3 m <sup>3</sup> (8.2 yd <sup>3</sup> ) STE P BOE	6.3 m <sup>3</sup> (8.2 yd <sup>3</sup> ) STE P T SEG	5.2 m <sup>3</sup> (6.8 yd <sup>3</sup> ) STE P T SEG	5.6 m <sup>3</sup> (7.3 yd <sup>3</sup> ) STE P T SEG	6.0 m <sup>3</sup> (7.8 yd <sup>3</sup> ) STE P T SEG	5.0 m <sup>3</sup> (6.5 yd <sup>3</sup> ) SPN P T SEG	8.2 m <sup>3</sup> (10.7 yd <sup>3</sup> ) LM P													
Volume, heaped ISO/SAE	m <sup>3</sup>	yd <sup>3</sup>	5.6	7.3	5.9	7.7	6.3	8.2	6.3	8.2	5.2	6.8	5.6	7.3	6.0	7.8	5.0	6.5	8.2	10.7	5.9	7.7
Volume at 110% fill factor	m <sup>3</sup>	yd <sup>3</sup>	6.2	8.1	6.5	8.5	6.9	9.1	6.9	9.1	5.7	7.5	6.2	8.1	6.6	8.6	5.5	7.2	9.0	11.8	6.5	8.5
Static tipping load, straight	kg	lb	25,190	55,540	25,030	55,190	24,850	54,800	24,730	54,540	25,200	55,560	25,040	55,210	25,180	55,520	23,740	52,350	24,450	53,910	-2,970	-6,540
at 35° turn	kg	lb	22,350	49,280	22,200	48,940	22,030	48,570	21,910	48,300	22,360	49,300	22,200	48,960	22,320	49,210	21,070	46,460	21,650	47,730	-2,730	-6,000
at full turn	kg	lb	22,030	48,570	21,870	48,230	21,700	47,860	21,580	47,590	22,030	48,590	21,880	48,240	21,990	48,490	20,770	45,790	21,330	47,030	-2,690	-5,940
Breakout force	kN	lbf	228.8	51,450	223.1	50,160	215.0	48,350	215.9	48,550	240.8	54,140	232.2	52,220	235.2	52,880	196.8	44,260	190.8	42,910	30	680
A	mm	ft in	9,270	30' 5"	9,320	30' 7"	9,390	30' 10"	9,370	30' 9"	9,410	30' 11"	9,480	31' 1"	9,460	31' 0"	9,750	32' 0"	9,590	31' 5"	310	1' 0"
E	mm	ft in	1,470	4' 10"	1,510	4' 10"	1,570	5' 2"	1,560	5' 1"	1,600	5' 3"	1,650	5' 5"	1,630	5' 4"	1,870	6' 2"	1,750	5' 9"	-20	-0' 1"
H**)	mm	ft in	3,160	10' 4"	3,130	10' 3"	3,080	10' 1"	3,050	10' 0"	3,070	10' 1"	3,030	9' 11"	3,040	10' 0"	2,920	9' 7"	2,910	9' 7"	360	1' 3"
L	mm	ft in	6,360	20' 11"	6,470	21' 3"	6,370	20' 11"	6,460	21' 2"	6,440	21' 2"	6,440	21' 1"	6,590	21' 7"	6,510	21' 4"	6,450	21' 2"	360	1' 2"
M**)	mm	ft in	1,400	4' 7"	1,480	4' 10"	1,480	4' 10"	1,420	4' 8"	1,560	5' 1"	1,560	5' 1"	1,550	5' 1"	1,790	5' 11"	1,610	5' 3"	-80	-0' 3"
N**)	mm	ft in	2,100	6' 11"	2,150	7' 1"	2,150	7' 1"	1,990	6' 6"	2,210	7' 3"	2,210	7' 3"	2,200	7' 2"	2,280	7' 6"	2,180	7' 2"	240	0' 9"
V	mm	ft in	3,400	13' 3"	3,400	13' 3"	3,400	13' 3"	3,400	13' 5"	3,400	13' 3"	3,400	13' 3"	3,400	13' 3"	3,430	13' 5"	3,700	14' 5"	0	0
a1 clearance circle	mm	ft in	15,570	51' 1"	15,590	51' 3"	15,620	51' 3"	15,620	51' 3"	15,640	51' 4"	15,670	51' 5"	15,660	51' 5"	15,850	52' 0"	16,020	52' 7"	230	0' 8"
Operating weight	kg	lb	32,050	70,670	32,160	70,910	32,260	71,140	32,370	71,380	32,190	70,980	32,300	71,230	32,420	71,480	33,190	73,190	32,580	71,830	380	850

Note: This only applies to genuine Volvo attachments.

\*\* Calculated with the rehandling counterweight included.

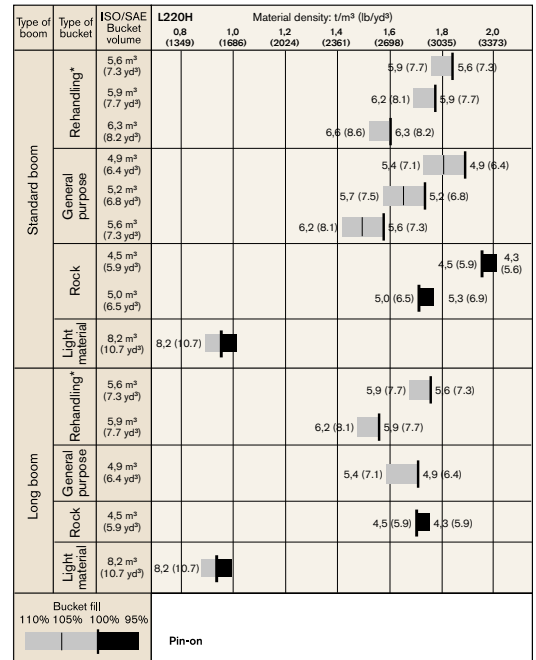
\*\*\* Calculated with L5 Tires (No additional counterweight)

### 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/m<sup>3</sup>. Result: The 5.2 m<sup>3</sup> bucket carries 5.5 m<sup>3</sup>. For optimum stability always consult the bucket selection chart.

Material	Bucket fill, %		Material density		ISO/SAE bucket volume		Actual volume	
			t/m <sup>3</sup>	lb/yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>
Earth/Clay	~ 110		~ 1.6	~ 2,698	4.9	6.4	~ 5.4	~ 7.1
			~ 1.5	~ 2,530	5.2	6.8	~ 5.7	~ 7.5
			~ 1.4	~ 2,361	5.4	7.1	~ 5.9	~ 7.7
Sand/Gravel	~ 105		~ 1.7	~ 2,867	4.9	6.4	~ 5.1	~ 6.7
			~ 1.6	~ 2,698	5.2	6.8	~ 5.5	~ 7.2
			~ 1.5	~ 2,530	5.4	7.1	~ 5.7	~ 7.5
Aggregate	~ 100		~ 1.8	~ 3,035	5.6	7.3	~ 5.6	~ 7.3
			~ 1.7	~ 2,867	5.9	7.7	~ 5.9	~ 7.7
			~ 1.6	~ 2,698	6.3	8.2	~ 6.3	~ 8.2
Rock	≤ 100		~ 1.7	~ 2,867	4.5	5.9	~ 4.5	~ 5.9

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



### Supplemental Operating Data

Tires 29.5 R25 L4	Standard boom							Long boom						
	29.5 R25 L3		29.5 R25 L5		875/65 R29 L4			29.5 R25 L3		29.5 R25 L5		875/65 R29 L4		
Width over tires	mm	in	-20	-0.8	+35	+1.4	+95	+3.7	-20	-0.8	+35	+1.4	+95	+3.7
Ground clearance	mm	in	±0	±0	+40	+1.6	-10	-0.4	±0	±0	+40	+1.6	-20	-0.8
Tipping load, full turn	kg	lb	-100	-3.9	+1,010	+39.8	+180	+7.1	-90	-3.5	+930	+36.6	+180	+7.1
Operating weight	kg	lb	-80	-3.2	+1,490	+58.7	+650	+25.6	-80	3.2	+1,500	+59.1	+650	+25.6

# Equipment

STANDARD EQUIPMENT			
	L150H	L180H	L220H
<b>Engine</b>			
Exhaust after-treatment system	•	•	•
Two stage air cleaner, pre-cleaner, primary and secondary filter	•	•	•
Preheating of induction air	•	•	•
Fuel pre-filter with water trap	•	•	•
Fuel filter	•	•	•
Crankcase breather oil trap	•	•	•
Exterior radiator air intake protection	•	•	•
<b>Drivetrain</b>			
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 with Lock-up, RBB	•	•	•
Lock-up first gear	•	•	•
<b>Electrical system</b>			
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)			

STANDARD EQUIPMENT			
	L150H	L180H	L220H
<b>Contronic Monitoring System</b>			
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	•	•	•

# Equipment

STANDARD EQUIPMENT			
	L150H	L180H	L220H
<b>Hydraulic system</b>			
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	•	•	•
<b>Brake System</b>			
Dual brake circuits	•	•	•
Dual brake pedals	•	•	•
Secondary brake system	•	•	•
Parking brake, electro-hydraulic	•	•	•
Brake wear indicators	•	•	•
<b>Cab</b>			
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	•	•	•

STANDARD EQUIPMENT			
	L150H	L180H	L220H
<b>Service and Maintenance</b>			
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	•	•	•
<b>External Equipment</b>			
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	•	•	•

OPTIONAL EQUIPMENT			
	L150H	L180H	L220H
<b>Engine</b>			
Air pre-cleaner, cyclone type	•	•	•
Air pre-cleaner, oil-bath type	•	•	•
Air pre-cleaner, turbo type	•	•	•
Engine auto shutdown	•	•	•
Engine delayed 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	•	•	•
<b>Tires</b>			
26.5 R25	•	•	–
775/65 R29	•	•	–
29.5 R25	–	–	•
875/65 R29	–	–	•
<b>Drivetrain</b>			
Diff lock front 100%, Limited Slip rear	•	•	•
Speed limiter	•	•	•
Wheel/axle seal guards	•	•	•
<b>Electrical system</b>			
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, white noise	•	•	•
Reverse warning light, strobe lighting	•	•	•
Shortened headlight support brackets	•	•	•
Side marker lamps	•	•	–
Warning beacon LED	•	•	•
Warning beacon LED automatic	•	•	•
LED Head Light	•	•	•
LED tail light	•	•	•
LED working lights, attachments	•	•	•
LED working lights on cab, front and rear	•	•	•
LED working lights on cab, front, 2 alt. 4 LED lamps	•	•	•
LED working lights on cab, rear, 2 alt. 4 LED lamps	•	•	•
LED working lights, rear in grille, 2 LED lamps	•	•	•
LED working lights, front above head lamps, 2 LED lamps	•	•	•
LED work lights, side on cab, 4 LED lamps	•	•	•
LED light packages	•	•	•
Working lights halogen, attachments	•	•	•
Working lights on cab halogen, front and rear	•	•	•
Working lights on cab halogen, rear	•	•	•
Electrical distribution unit 24 volt	•	•	•
Alternator 120 amp, heavy-duty	•	•	•
Load Assist	•	•	•
Radar detect system	•	•	•
Forward camera, colour	•	•	•
Parking brake alarm, audible for air susp seats	•	•	•
Jump start connector, NATO-Type	•	•	•

OPTIONAL EQUIPMENT			
	L150H	L180H	L220H
<b>Hydraulic system</b>			
Boom suspension system	•	•	•
Separate attachment locking	•	•	•
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	•	•	•
Single lever control, hydraulics 2 functions	•	•	•
Single lever control, hydraulics 3 functions	•	•	•
Single lever control, hydraulics 4 functions	•	•	•
<b>Brake System</b>			
Oil cooler and filter front & rear axle	•	•	•
Stainless steel, brake lines	•	•	–
<b>Cab</b>			
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	•	•	•

# Equipment

OPTIONAL EQUIPMENT			
	L150H	L180H	L220H
<b>Service and Maintenance</b>			
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	•	•	•
<b>Protective Equipment</b>			
Belly guard front	•	•	•
Belly guard rear	•	•	•
Cover plate, heavy-duty, front frame	•	•	•
Cover plate, rear frame	•	•	•
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	•	•	–
<b>External Equipment</b>			
Cab ladder, rubber-suspended	•	•	•
Deleted front mudguards	•	•	•
Fire suppression system	•	•	•
Mudguards, full cover, front and rear for 80-series tires	•	•	•
Mudguards, full cover, front and rear for 65-series tires	•	•	•
Long boom	•	•	•
Tow hitch	•	•	•

OPTIONAL EQUIPMENT			
	L150H	L180H	L220H
<b>Other Equipment</b>			
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, 50 km/h	•	–	–
<b>Attachments</b>			
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	•	•	•

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**SELECTION OF VOLVO OPTIONAL EQUIPMENT**

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**Additional auxiliary hydraulics**



**Central lubrication system**



**Fire suppression system**



**External axle oil cooling**



**LED light packages**



**Long boom**



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.

**VOLVO**

**Volvo Construction Equipment**

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