

V O L V O



Volvo Wheel Loaders 8.6-9.9 t 99-118 hp

L50H

Volvo Construction Equipment

L50H



Small size: big talent



Take control

- Comfort Drive Control: lever steering (optional)
- Inch-brake pedal
- Joystick or multi-lever hydraulic pilot control



Comfortable cab

- Easy cab access
- All-around visibility
- Intuitive controls
- Quiet, steady environment



Short cycle times

- Differential lock front and rear
- Load-sensing hydraulics
- Powerful, fuel efficient Volvo engine
- Torque parallel linkage



High-speed hydrostatic transmission

- Travel up to 50km/h
- Drive mode selector
- Adjustable tractive power
- Hand speed limiter (optional)



Maximum uptime

- Reversible cooling fan
- Maintenance-free rear axle oscillation
- Dual element air filter protecting the engine
- Grouped grease points
- DPF regeneration occurs every 500 hours



The complete package

- Range of matched Volvo Attachments
- CareTrack telematics system: easy machine monitoring
- Genuine Volvo Parts
- Maintenance and Repair agreements

Balanced and compact design



- Long wheel base, low center of gravity
- Transversal engine mounting: optimal weight distribution
- Sloped counterweight enables high departure angles

Volvo L50H in detail

Engine

Volvo Stage V compliant, 4 liter, 4-cylinder in-line turbocharged diesel engine; featuring common rail fuel injection system and externally cooled exhaust gas recirculation (EGR). Exhaust aftertreatment system includes a diesel oxidation catalyst (DOC), a diesel particulate filter (DPF) and a selective catalytic reduction (SCR). Cooling pack includes side by side arranged radiators for engine coolant, hydraulic oil and charge air cooler.

Engine	Volvo	D4J
Max power at	r/min	1 800 - 2 200
SAE J1995 gross	kW	87
	hp	118
SAE J1349, ISO 9249 net	kW	85
	hp	116
Max. torque at	r/min	1 450
SAE J1995 gross	Nm	475
	Nm	466
SAE J1349, ISO 9249 net	Nm	466
Economic working range	r/min	1 200 - 1 800
Displacement	l	4

Electrical System

Contronic electrical system with central warning light and buzzer, providing clear and easy to read information to the operator. LCD display with main and sub information field, adjustable to various languages.

Display information in three categories:

- Information on continuous operating data,
- Check requests (based on vehicle and error messages)
- Warning (with alarm texts).

Additional audible warning by a buzzer.

Indicator and activation lights for various control and monitoring functions.

Gauges for Adblue® level, fuel tank level, speedometer, engine speed, coolant temperature, transmission/hydraulic oil temperature.

A keypad allows easy navigation on the central instrument display.

Direct access buttons for Engine, Transmission, Hydraulics, Axles & Brakes, Electrical system, Vehicle information, Vehicle messages, Service, Settings and Cycle information.

Voltage	V	24
Batteries	V	2x12
Battery capacity	Ah	2x100
Cold cranking capacity, approx	A	830
Alternator rating	W/A	3 080 / 110
Starter motor output	kW	5.5

Drivetrain

Hydrostatic transmission allows for of speed range change without any tractive power interruption.

Maximum tractive power is available in all speed ranges, regardless of the driving direction.

Automatic power regulation prevents engine stalling in case of additional power demand from the working hydraulics or the auxiliaries, and protects from overheating in case of overload.

Fully floating axle shafts with planetary hub reductions and steel casted axle housing.

Fixed front axle and oscillating rear axle, both self-lubricated.

100% differential lock on both axles.

For 40/50 km/h* speed version only: The drive modes selector enable to select the best possible driveline setting for every applications and operator preference.

*max vehicle speed market dependent

Travel speed, forward/reverse

20 km/h-speed version

1st gear	km/h	0 - 6
2nd gear	km/h	0 - 20

30 km/h-speed version

1st gear	km/h	0 - 6
2nd gear	km/h	0 - 30

50 km/h*-speed version

1st gear	km/h	0 - 6
2nd gear	km/h	0 - 19
3rd gear	km/h	0 - 50*

*max vehicle speed market dependent

Linkage

Double acting cylinder for all functions	
Linkage system	Torque parallel (TP)
Lift cylinders	2
Tilt cylinders	1
Lift time (loaded)	s 4.7
Lowering time (empty)	s 3.9
Dump time	s 1.2

Brake system

Brake system 20 & 30 km/h speed version:

The brake system complies with ISO 3450 requirements. Single circuit service brake featuring hydraulically operated wet disk brakes on rear axle.

An Inching-brake pedal provides hydrostatic wearless braking in the first stage for precise approach; if applied further the service brakes takes over for final braking and machine immobilization.

Parking brake: Mechanically operated dry disc brake located on the input shaft of the front axle.

Brake system 40/50 km/h*:

The brake system complies with ISO 3450 requirements.

Dual circuit service brake featuring hydraulically operated wet disk brakes on front and rear axle.

An electronically Inching-brake pedal provides hydrostatic wearless braking in the first stage for precise approach; if applied further the service brakes takes over for final braking and machine immobilization.

Parking brake: Mechanically operated dry disc brake located on the input shaft of the front axle.

* max vehicle market dependent

Steering System

Load sensing hydrostatic articulated steering with double acting cylinders.

System supply:

The steering system has priority feed from the load-sensing axial piston pump with variable displacement.

Steering cylinders:

Two double-acting cylinders. Elastic end-stops.

Steering cylinders		2
Working pressure	MPa	17.5
Maximum flow	l/min	70
Max articulation	± °	40

Cab

The cab is tested and approved according to ROPS (ISO 3471, SAE J1040) and FOPS (ISO 3449).
The cab is compliant with ISO 6055 requirements regarding Operator overhead protection - Industrial trucks and SAE J386 regarding Operator Restraint System.
The operator's seat features an adjustable suspension and a retractable seatbelt.
Fresh air is filtered through two large elements prior entering, ensuring extremely clean air distribution in the cab.
11 air flow settings or an automatic mode provides efficient ventilation.
Air vents are available to all windows enabling fast de-misting and defrosting.
The contronic monitoring system provides all important information in a central position and all machine controls are located in the operator's field of vision.

Sound Level

Sound pressure level in cab according to ISO 6396

L _{pA}	dB	70
L _{pA} (as option)	dB	68

External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC

L _{WA}	dB	102
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Service Refill

Fuel tank	l	160
DEF/AdBlue® tank	l	20
Engine oil	l	14
Engine coolant	l	20
Hydraulic tank	l	95

Front axle oil

20/30 km/h speed version	l	17.5
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Rear axle oil

20/30 km/h speed version	l	17.5
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Front axle oil

40/50 km/h* speed version	l	17
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Rear axle oil

40/50 km/h* speed version	l	18.3
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Transmission oil

40/50 km/h* speed version	l	2.7
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Hydraulic system

Closed center load sensing hydraulic system with pilot operated control valves.

System supply:

A variable displacement piston pump provides flow to the working hydraulic and steering system. The steering function has always priority. A gear pump provides flow to the braking system and the cooling fan.

System control:

Double-acting 3-spools main control valve (4-spools valve as option). The lift function has four positions: lift, hold (neutral), lower and float position.

An optional automatic boom kick-out can be switched on and off and is adjustable to any position between maximum reach and full lifting height. The tilt function has three positions: rollback, hold (neutral) and dump. The standard bucket positioner system allows to easily adjust the tilt angle to a predefined position.

A third and fourth hydraulic functions are available as options to power hydraulic implements (Volvo hydraulic Attachment Bracket, Hi-Tip bucket, angle sweeper etc...)

Filtration:

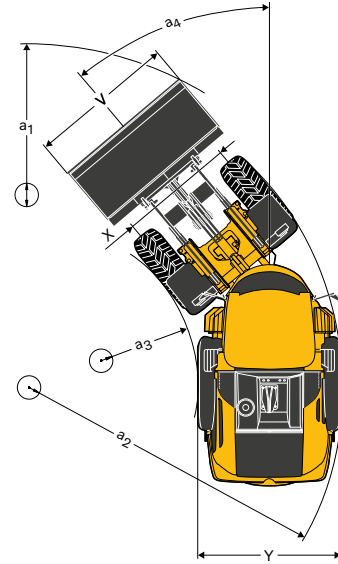
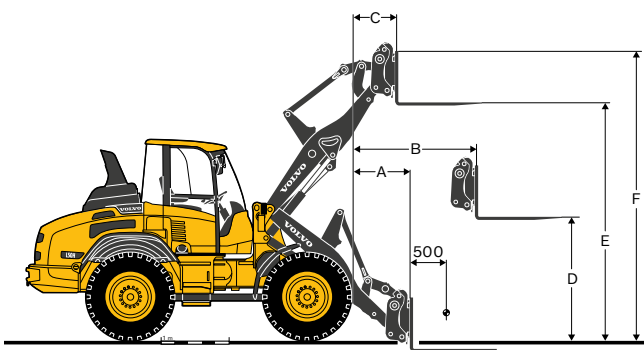
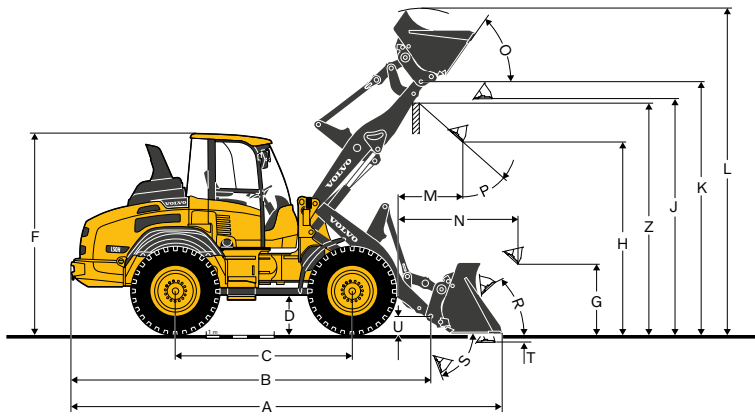
Full-flow filtration through 10 micron (absolute) filter cartridge in a combined suction-return-filter.

Cooling:

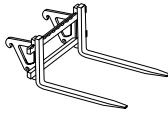
Thermostatically controlled oil flow to oil cooler (fast warm-up, optimized cooling).




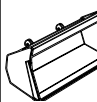
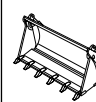
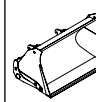
Main flow	l/min	158
Working pressure max	MPa	26
at engine speed	r/min	2 200
Flow auxiliary hydraulics	l/min	125
Working pressure max	MPa	20
at engine speed	r/min	2 200
High flow	l/min	143
Working pressure max	MPa	20
at engine speed	r/min	2 200

Specifications



		With TP-linkage, TPV attachment bracket and 17.5-25 tires	
B	mm	5 380	
C	mm	2 650	
D	mm	435	
F	mm	2 980	
G	mm	1 000	
J	mm	3 525	
K	mm	3 780	
O	°	54	
P	°	45	
R	°	44	
S	°	76	
U	mm	255	
X	mm	1 730	
Y	mm	2 190	
a ₂	mm	4 760	
a ₃	mm	2 540	
a ₄	°	40	

With Loading Fork		TPV attachment bracket	TPV Attachment bracket Long Boom
Center of gravity 500 mm			
A	mm	800	1 060
B	mm	1 505	1 705
C	mm	655	785
D	mm	1 745	1 745
E	mm	3 585	3 735
F	mm	4 320	4 470
Tipping load full turn (ISO 14397)		kg	4 810
Working load acc. to EN 474-3, 60/80%		kg	2 880 / 3 840
Working load 80%, transport position, 40 deg. and full turn		kg	4 000

With TP-Linkage,TPV attachment bracket and 15.5-25 tires		GENERAL PURPOSE		LIGHT MATERIAL		4-in-1	High-Tip	LONG BOOM
								
Capacity heaped	m ³	1.5	1.6	1.8	2.0	1.4	2.3	-
Material density	kg/m ³	1 900	1 700	1 500	1 300	1 900	1 000	-250
Static tipping load. straight (ISO 14397)	kg	6 560	6 510	6 400	6 290	6 080	5 550	-
Static tipping load. full turn 40° (ISO 14397)	kg	5 810	5 750	5 670	5 570	5 390	4 910	-510
Hydraulic lifting capacity. max.	kN	87	86	85	83	82	73	-
Breakout force	kN	72	69	64	58	65	-	-
A Total length	mm	6 460	6 495	6 580	6 690	6 560	7 030	-
L Lift height. max.	mm	4 880	4 900	4 980	5 235	4 905	5 915	150
V Bucket width	mm	2 250	2 250	2 250	2 250	2 250	2 250	-
a ₁ Clearance circle	mm	10 360	10 385	10 435	10 505	10 475	10 740	-
T Digging depth	mm	95	95	95	95	130	105	-
H Dump height. 45°	mm	2 865	2 845	2 775	2 695	2 745	4 330	-
M Reach at max. height	mm	965	1 000	1 040	1 115	965	1 505	130
N Reach. max.	mm	1 810	1 830	1 890	1 970	1 810	2 710	200
Operating weight	kg	9 480	9 500	9 490	9 520	9 740	9 960	-





Equipment

STANDARD EQUIPMENT

Engine

- Dry-type air filter
- Three stage air cleaner, pre-cleaner, primary and secondary filter
- Preparation for pre-cleaner
- Preheating of induction air
- Side by side (single layer) cooling pack
- Coolant level monitoring
- Filtration screens on air inlets
- Fuel pre-filter with water trap
- Crank case breather oil trap
- Exhaust after-treatment system
- Exhaust heat ventilation

Drivetrain

- Hydrostatic drive
- Inching-brake pedal (hydrostatic wearless braking ahead of service brake application)
- Wet disc service brakes, hydraulically operated
- Dry disc parking brake
- Operator-selected 100% differential locks in both axles

Electrical System

- 24 V electrical system (2 X 12V maintenance free batteries)
- Batteries covered by lockable engine hood
- Electronic battery cut-off switch
- Alternator 110 A / 3 080 W
- Electric horn
- Care Track GSM

Hydraulic system

- Load-Sensing Hydraulics
- Flow sharing main control valve, three-spool system
- Variable displacement axial piston pump for working hydraulic and steering
- Gear pump for brake system and cooling fan
- 3rd hydraulic circuit
- Bucket positioner
- Indicator glass for hydraulic oil level
- Thermostatically controlled oil flow to oil cooler (fast warm-up, optimized cooling)

Lights

- Main head lights (halogen) upper/dipped/asymmetrical
- Working lights, halogen (2 front/2 rear)
- Parking lights
- Rear lights
- Brake lights
- Direction indicators
- Hazard warning lights
- Reversing lights
- Cab lighting

Service

- Standard tool kit
- Drain valves for engine oil, hydraulic oil and coolant
- Hydraulic pressure test ports with quick-connects

Instrumentation & controls

- 24 Volt accessories socket
- Hazard warning switch
- Safety start

Electronic Information System

- Contronic display with keypad
- Monitoring of fuel level, fuel consumption, AdBlue level, temperatures and pressures (engine, ambient, transmission, hydraulics, brakes and steering)
- LED-illuminated symbols are available for direction indicators, transportation & work lights, rotating beacon*, parking brake, engine oil pressure, battery charging, differential lock, boom suspension system*, DEF warning, regeneration and high exhaust temperature. *optional

STANDARD EQUIPMENT

Cab, Exterior

- ROPS/FOPS-cab
- Cab cushioning
- Single key kit door / start
- Lockable door
- Door stops
- All-round tinted safety glass
- Sliding window RHS
- Two-stage air inlet filtration with large easy to replace elements
- External rear view mirrors (right/left)
- Windscreen wiper (front/rear)
- Windscreen washer (front/rear)

Cab, Interior

- Acoustic inner lining
- Floor mat
- Adjustable steering column
- Left and right armrests
- 4-way adjustable operator's seat
- Retractable seat belt
- Sunvisor
- Interior rear view mirrors
- Air conditioner
- Automatic heat control
- Several air vents on the front and rear of the cab, allowing excellent climate control, demisting and defrosting
- Interior light
- Coat hook
- Cup holder
- Storage box in the cab
- 24 V power outlet
- Emergency hammer
- Seat mec/susp

Working Equipment

- Automatic bucket positioner
- Hydraulic quick-change attachment bracket

External equipment

- Fenders (front/rear)
- Lockable engine hood
- Lockable fuel-tank cap
- Lockable AdBlue filler cap
- Vertical exhaust
- Frame, joint lock
- Towing device
- Lifting eyes and Tie-down points

Official approval

- Machine conforming to European directive 2006/42/EC
- Electromagnetic compatibility (EMC) conforming to European directive 2014/30/EC
- Noise emissions in the environment conforming to directive 2000/14/EC
- Tipping load and payload conforming to ISO 14397-1
- ROPS conforming to ISO 3471
- FOPS conforming to ISO 3449

OPTIONAL EQUIPMENT

Engine

Handthrottle
Fuel preheater
Automatic engine shutdown
Turbo II Prefilter
Air pre-cleaner, oil-bath type
Fan speed, high ambient
Reversible cooling fan
Engine Block heater, 120 V / 230 V

Drivetrain

Hand-inching
20 km/h version
30 km/h version
40/50 km/h*
*max vehicle speed market dependent

Electric

Rotating beacon foldable
Preparation for magnetic rotating beacon
Magnetic rotating beacon
Reverse alarm audible
Reverse alarm audible & switchable
Reverse alarm audio visual switchable
Rear view camera incl monitor (color)
LED Working lights on cab, 2 front / 2 rear
LED Working lights on cab, 4 front / 4 rear
Additional LED Working lights, 2 front / 1 rear
Elevated headlights 350 mm
Road light equipment width 2.5 m
Power outlet 12 V
Anti theft device
Care Track Satellite

Hydraulic equipment

Hyd oil mineral VG46 HV
Hyd oil mineral VG32 HV
Hyd oil mineral VG68 HV
Hyd oil bio synthetic VG46
Boom suspension system
Boom kickout
Safety valve for lift cylinder
Combination Boom suspension system with safety valves for boom cylinder
Tilt control
Tilt speed limiter mechanical
Safety valve for tilt cylind.
4th function
Hydr. Couplings
High flow L50H: 143 l/min
Auxiliary hydraulic's return line (via filter)

OPTIONAL EQUIPMENT

Cab

Door all glass
Door with sliding window
Foldable right hand window
Split door (Door with foldable window)
Heated rearview mirrors
Seat fab air/susp heat
Seat belt 3"
Seat belt warning
Comfort drive control (CDC)
Radio preparation 12 V
Radio
Joystick control including F/R/N, up/down-shift, differential lock and 3rd hydraulic function
Multilever control, including F/R/N, up/down-shift, differential lock, horn and 3rd hydraulic function
Multilever control, including F/R/N, up/down-shift, differential lock, horn, 3rd & 4th hydraulic function
Timer cab heating (Pause heating)
Auxiliary cab & engine heater

Service

Wheel chock
Tool Kit
Central Lub unit (Volvo)

Wheel/Tires

500/70R24
15.5R25
17.5R25
3-piece rim
550/65R25
600/55-26.5

Protective equipment

Front Mudflaps
Extended mudflaps
Mudguard extension 75 mm
Belly guards, front/rear
Rear lights protection
Headlights protection
Working lights guards, front/rear
Windshield guard, rear
Windshield guard, front
Engine hood protection

Other

Long boom
Preparation for licence plate
Side marking reflectors
SMV warning triangle
Trailer socket
Multiline license plate retainer
Colour Level 1 (yellow parts)
Colour Level 1+2

Attachments / Buckets

Log grapples
Forks
Material handling arm
General Purpose bucket
High-Tip bucket
Light material bucket
Clamp bucket

V O L V O