VOLVO WHEEL LOADER

L50E

VOLVO

VOLVO L50E – THE ALL-ROUNDER

When it comes to construction equipment, it's the bottom line that counts. Volvo L50E is an all-rounder based on years of experience with Volvo's basic concept for flexible, productive wheel loaders and tool carriers. This trustworthy wheel loader is well suited for a wide range of applications, especially when operating in tight spaces. The L50E is the obvious choice of loader for municipalities, road authorities, harbors, saw mills, agricultural applications and construction sites. You'd be hard pressed to find a more dependable, all-round machine that's as much fun to operate — and to own — as this Volvo wheel loader.

Smart solutions
Volvo's long experience has been used in designing the L50E, making it a highly reliable and true all-round loader. The machine's low-emission engine features quick response, great fuel economy, low sound levels and long life. The hydrostatic transmission gives fast acceleration and variable speed control. The load-sensing hydraulic system only pumps oil when needed. The L50E is equipped with Volvo's patented lift arm system, TP Linkage. This unique system combines superior breakout torque and parallel action throughout the entire lifting range. The visibility-optimized attachment bracket gives the operator an excellent view of the attachment and the load. Together with Volvo's wide range of attachments, you get flexibility and economy that's tough to beat.

Workplace with high comfort and optimized visibility
Matching of the visibility-optimized loader linkage, attachment bracket and attachments gives the operator optimized visibility of the load in any unloading, loading or transport application. The operator has a very comfortable work environment in the cab, with extremely low sound levels and a unique air filtration system. The operator has an optimized view of the worksite around the machine, which ensures high productivity and safety. The low external sound level makes the L50E the obvious choice for applications in sensitive environments, such as urban and residential areas. Optimized operating economy, in combination with easy and quick maneuverability, makes the L50E a reliable winner in a wide range of applications.

Specifications L50E
Engine: Volvo D4D LA E2
Max power at
36,7 r/s **(2,200 rpm)**
SAE J1995 gross
74,9 kW **(102 hp)**
ISO 9249, SAE J1349 net
73,9 kW **(101 hp)**
Breakout force:
66,4 kN* **(14,930 lbf)**
Static tipping load, at full turn:
5 150 kg* **(11,350 lb)**
Buckets:
1,2 – 3,9 m^3 **(1.6–5.1 yd^3)**
Log grapples:
0,7 – 1,0 m^2 **(7.5–10.8 ft^2)**
Operating weight:
8,2 – 9,4 t **(18,080–20,720 lb)**
Tires:
17.5 R25, 15.5 R25

* Bucket: 1,3 m^3 **(1.7 yd^3)** straight edge with bolt-on edges.
Tires: 17.5 R25 L2


VOLVO
L50E

SMART, FAST AND SMOOTH

Volvo L50E is equipped with a turbocharged high-performance, low-emission engine. The efficient engine, combined with load-sensing hydraulics and the intelligent hydrostatic transmission, gives fast response in all work phases. Volvo's unique lift arm system, Torque Parallel Linkage (TP Linkage), gives constant high breakout torque and parallel lift throughout the entire lifting range. This results in high productivity and superior flexibility.

Fast response
The power from Volvo's high-performance, low emission engine gives the all-rounder high rimpull, excellent penetration capability and quick acceleration. Volvo's engines give high torque already at low engine speeds — a highly appreciated feature which results in unbeatable fast response.

Shift with the application
The hydrostatic transmission gives the L50E fast acceleration and variable speed control. The system features a high/low transmission that allows shifting between two speed ranges. With the inching function* engaged, the operator has better control of the machine's speed when operating with hydraulically-driven attachments.

Power — when and where it's needed
The L50E features a highly efficient load-sensing hydraulic system. In addition to superior high-precision maneuvering of the attachment and load, the system only provides hydraulic power when and where it's needed. The result is high efficiency and low fuel consumption. When no flow is required in the hydraulic system during the work cycle, all the engine power can be used by the drivetrain.

TP Linkage — superior torque throughout the entire lifting range
TP Linkage, Volvo's unique lift arm system, delivers high and constant breakout torque throughout the entire lifting range. The system is extremely user-friendly and the operator can easily and effectively handle heavy materials with full power and control through the entire working range. No other lift arm system on the market provides such high, even breakout torque. The linkage provides excellent parallel movement, making it possible for the L50E to perform well in applications where others need two different machine types. The high breakout torque and the precision-performance hydraulics make the L50E extra suitable for operating with a bucket or other attachments.

In the L50E, technology, productivity and economy go hand in hand — all for your optimal profitability.

Engine
- Volvo D4D low emission engine with high torque and fast response already at low engine speeds, even when fully loaded. The machine can work at low engine speeds, which contributes to great fuel economy, less noise, less wear and longer life.
- Hydraulically-driven, electronically controlled fan only works when there's a cooling demand, saving fuel.

Transmission
- The hydrostatic transmission gives fast acceleration and variable speed control.

Axles/Brakes
- Volvo's in-house developed axles are integrated into the total drivetrain design to give effective rimpull.
- Circulation-cooled, oil emmersed wet disc brakes, give high reliability and long service life.
- Electronic brake test in Contronic gives fast information on the brake system's function.
- Brake wear indicator on each wheel for easy check of brake pad wear.

Steering
- Load-sensing steering only uses power when it is needed, therefore saving fuel.
- The steering system's design provides smooth steering movements and higher operating safety.

Frame
- Rugged frame design with high-strength steel.
- Volvo's articulation joint with center hinge bearings is a well-proven and service friendly concept with renowned long service life.

TP Linkage

- Unique patented lift arm system provides two solutions in one: high torque and parallel action.

Load-sensing hydraulic system

- The load-sensing hydraulic system delivers exact hydraulic oil flow for activation when needed. This is an energy efficient system which lowers fuel consumption.
- Pilot-operated hydraulics — easy fingertip operation with short strokes allows precise control of movements, increasing the operator's efficiency and safety.

* Optional equipment

AN ALERT OPERATOR IS A PRODUCTIVE OPERATOR

Volvo Care Cab with the Contronic monitoring system reinforces Volvo's reputation as a leader in operator environments and cab comfort. We never forget the operator inside the machine. A comfortable, operator-friendly and safe environment makes the workday easier and more productive.

Care Cab
A clean and comfortable workplace.
A great cab climate does wonders for efficiency, keeping operators sharp during long shifts. All incoming air is filtered in two stages, making this one of the cleanest cabs on the market. Even the re-circulated air is filtered. The efficient air-conditioning* provides a comfortable cab temperature, regardless of cold or hot climate conditions. The air-conditioning system also functions as an air dryer.

Good comfort means higher productivity
There is a range of comfortable seats, all of them with multiple adjustment functions for optimal individual comfort. All instruments are visible at a glance, and all important information is right in front of the operator. The forward-reverse and kick-down functions are available both on the lever to the left of the steering wheel and on the hydraulic console to the right. With Comfort Drive Control (CDC)*, the operator can operate steering, forward, reverse and kick-down with controls on the left armrest. At any time, the operator can switch between steering with the steering wheel and CDC, which helps to minimize tiring and repetitive movements. This gives the operator the possibility to vary operating modes, thus combatting fatigue and static muscle strain.

Contronic keeps an eye on everything
The machine's operation and performance are monitored continuously by Contronic, the highly reliable control and monitoring system from Volvo. The system is an electronic network made up of two computers. Operating at three levels, the system keeps an eye on the machine's functions in real-time. If a potential problem should occur, the system generates an immediate warning, making the operator aware of the condition. All operating data is saved and can be used to analyze how the machine performs and to trace its history since the latest service. The machine's functions can be updated for optimal adaptation to new and changing operating conditions via the Contronic service display. With the MATRIS analysis software, it's also possible to check and adjust the machine's functions and performance.

No noise to shout about
Thanks to its ingenious rubber mounting system and heavy-duty insulation, the Care Cab is one of quietest cabs on the market. Without tiresome earfuls and annoying vibrations, the operator will stay sharp throughout the shift. In short, it's a great place to work.

* Optional equipment

Care Cab
- Comfortable cab climate with one of the market's most efficient cab filtration system.
- Pleasant interior, easy to keep clean.
- Adjustable steering wheel, seat, armrest and lever console for optimal operator comfort and high production.
- Contronic, a superior control and monitoring system, designed for higher safety and productivity.
- Large windows and narrow pillars give good all-round visibility, which means increased safety.
- All service platforms and steps feature improved anti-slip surfaces.


TURBO
30 s
60 s
VOLVO

VOLVO'S COMMITMENT TO NATURE AND MANKIND

Quality, safety and care for the environment are Volvo's core values. Indeed, we see our commitment as an integral part of our operation. Few machines have to work in tougher conditions. The ultimate goal is maximized productivity and efficiency for the lowest cost per hour, with minimized environmental impact. For instance, plants and manufacturing processes are certified in accordance with ISO 14001. This is but one example of our tangible commitments and high quality standards. And that's why Volvo customers get one of the most environmentally considerate and dependable wheel loaders on the market.

A winner for years to come
Your Volvo L50E has to be a winner — both in day-to-day and long term operations, but also when it comes to operating economy and environmental consideration. The machinery has to be trusted in all aspects. It must deliver the anticipations of productivity and economy. High-quality and easy maintenance are imperative for keeping up the work process. The high-performance low-emission engine is a good affair for you and the environment.

Comfortable and quiet operator´s environment
The operator inside deserves a comfortable, reliable and safe machine to work with. A great environment helps to spare operator, equipment and nature for years to come. The Volvo L50E is a super competitive wheel loader that puts the operator right in the middle, literally speaking. Tedious vibrations and noise have been heavily reduced. If the operator feels comfortable and secure, it's easier to stay attentive.

More than 95% recyclable
This wheel loader is almost fully recyclable. We see it as a natural step in our commitment. Components such as the engine, transmission and hydraulics are re-engineered and re-used in our Parts Exchange program. The equipment has to be as trustworthy, service-friendly, productive and cost-effective as possible. Choose this wheel loader for maximum productivity and minimal impact on operator, machinery and environment. Feel free to feel secure in a Volvo L50E.

Quality
- The air is vented from all major components with easy to replace breather filters, used to prevent dirty air from entering the transmission, axles, fuel tank and hydraulic tank.
- All electrical wires are routed through sturdy conduits, protected from water, dust and abrasion with rubberized connectors and terminal caps.
- The L50E is designed from the beginning for easy service and maintenance. Easy access to all components lays the foundation for shorter service and maintenance time and longer life.

Safety
- A dual circuit service brake system that fulfills all requirements according to ISO 3450, electronic brake test in Contronic and easy to check brake wear indicators are allways to ensure safe and effective braking.
- Volvo Care Cab is tested and approved according to ROPS ISO 3471 and FOPS ISO 3449 standards.
- Optimized panoramic visibility gives effective control over the entire work area.
- The L50E has steps and platforms that are equipped with anti-slip surfaces and well-positioned hand rails.

Environment
- The low rpm, high-performance D4D engine meets all current emission requirements according to stage 2 legislation in Europe and the US.
- The L50E is manufactured in an environmentally certified factory according to ISO 14001.
- The L50E is more than 95% recyclable according to material weight.
- Low external and internal sound levels.

L50E

VOLVO
L50E

VOLVO

VOLVO L50E IN DETAIL

Engine

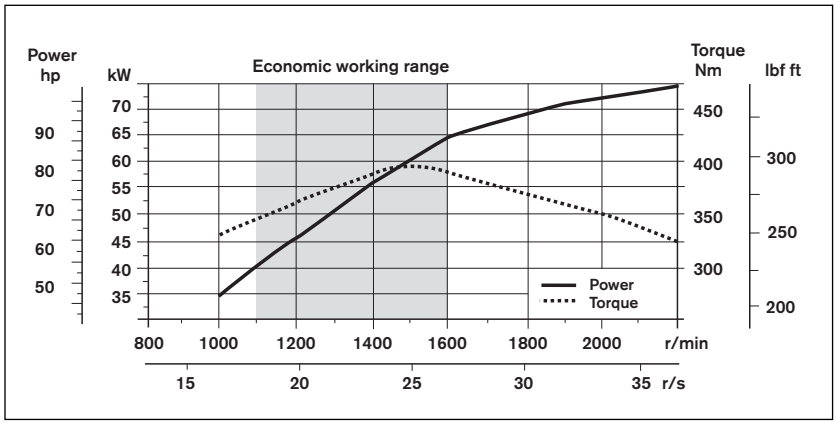
Engine: 4 liter, 4-cylinder straight turbocharged diesel engine with conventional injectors. Air cleaning: three-stage. Cooling system: Hydrostatic, electronically controlled fan.

Engine	Volvo D4D LA E2
Max power at	36,7 r/s **(2,200 rpm)**
SAE J1995 gross	74,9 kW **(102 hp)**
SAE J1349 net	73,9 kW **(101 hp)**
Max torque at	25 r/s **(1,500 rpm)**
SAE J1995 gross	390 Nm **(288 lbf ft)**
SAE J1349 net	384 Nm **(283 lbf ft)**
Economic working range	1100–1600 rpm
Displacement	4,0 l **(244 in³)**

Electrical system

Central warning system: Central warning light for the following functions, (buzzer with gear engaged): Engine oil pressure, hydrostatic charge pressure, gear box oil pressure, brake pressure, parking brake applied, hydraulic oil level, steering pressure, coolant temperature, gear box temperature, engine overspeeding, transmission overspeeding, computer malfunction, hydraulic oil temperature.

Voltage	24 V
Batteries	2x12 V
Battery capacity	2x105 Ah
Cold cranking capacity, approx	690 A
Reserve capacity, approx	185 min
Alternator rating	1920 W/80 A
Starter motor output	4 kW **(5.4 hp)**



Drivetrain

The transmission consists of a hydraulic pump, hydraulic motor (both with variable displacement) and a two-stage Volvo power shift gearbox, which is controlled by either the gear selector or temporarily via a kickdown function. Axles: Volvo fully floating axle shafts with planetary hub reductions and cast steel axle housings. Fixed front axle and oscillating rear axle. Differential: Conventional front and rear.

Maximum speed, forward/reverse	
Low range	19 km/h **(11.8 mph)**
High range	40 km/h **(24.9 mph)**
Hydrostatic motor lock	
Low range	4,6 km/h **(2.9 mph)**
High range	10,8 km/h **(6.7 mph)**
Measured with tires	17.5 R25
Front axle/rear axle	Volvo/AWB 10
Rear axle oscillation	±12°
Ground clearance at 12° osc. 365 mm **(14.3 in)**	

Brake system

Service brake: Volvo dual-circuit system with nitrogen charged accumulators. Outboard mounted hydraulically operated, fully sealed oil circulation cooled wet disc brakes. Parking brake: Mechanically operated drum brake mounted on the front axle input shaft. An electro-hydraulically operated parking brake is optional. Secondary brake: Dual brake circuits with rechargeable accumulators. Either one circuit or the parking brake fulfills all safety requirements. Standard: The brake system complies with the requirements of ISO 3450.

Number of brake discs per wheel front/rear	1/1
Accumulators	3x0,5 l **(3x0.13 US gal)**

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.

Steering cylinders	2
Cylinder bore	63 mm **(2.48 in)**
Piston rod diameter	40 mm **(1.57 in)**
Stroke	320 mm **(12.6 in)**
Working pressure	21 MPa **(3,046 psi)**
Maximum articulation	±40°

Cab

Instrumentation: All important information is centrally located in the operator's field of view on the Contronic monitoring system's display unit. Heater and defroster: Heater coil with filtered fresh air and fan with four speeds. Defroster vents for all window areas. Operator seat: Ergonomic seat with adjustable suspension and retractable seatbelt. The seat is mounted on a bracket, which is mounted on the rear cab wall. The forces from the retractable seat belt are absorbed by the seat rail. Standard: The cab structure is tested and approved according to ROPS (ISO 3471) and FOPS (ISO 3449). The cab meets all requirements according to ISO 6055 (Operator Overhead Protection - Industrial Trucks) and SAE J386 (Operator Restraint System).

Emergency exits	1
Sound level in cab according to ISO 6396	LpA 68 dB (A)
External sound level according to ISO 6395 (Directive 2000/14/EC)	LwA 102 dB (A)
according to ISO 6395 ("Blauer Engel")	LwA 100 dB (A)
Ventilation	9 m^3/min **(318 ft^3/min)**
Heating capacity	11 kW **(37,500 Btu/h)**
Air conditioning (optional)	8 kW **(27,300 Btu/h)**

Hydraulic system

System supply: One load-sensing axial piston pump 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 including raise, hold, lower and float. 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 20 micron (absolute) filter cartridge.

Working pressure maximum	
	26,0 MPa **(3,771 psi)**
Flow	120 l/min **(31.7 US gpm)**
at	10 MPa **(1,450 psi)**
and engine speed	36,7 r/s **(2,200 rpm)**
Pilot system Working pressure	3,0 MPa **(435 psi)**
Cycle times	
Raise*	5,4 s
Tilt*	1,1 s
Lower, empty	3,0 s
Total cycle time	9,5 s

* with load as per ISO 14397 and SAE J818

Lift arm system

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

Lift cylinders	2
Cylinder bore	100 mm **(3.9 in)**
Piston rod diameter	70 mm **(2.75 in)**
Stroke	669 mm **(26.3 in)**
Tilt cylinder	1
Cylinder bore	125 mm **(4.9 in)**
Piston rod diameter	70 mm **(2.75 in)**
Stroke	434 mm **(17.1 in)**

Service

Service accessibility: Large, easy-to-open service doors with gas struts. Swing-out radiator grille. Possibility to log and analyze data to facilitate troubleshooting.

Refill capacities	
Fuel tank	150 l **(39.6 US gal)**
Engine coolant	19 l **(5 US gal)**
Hydraulic oil tank	65 l **(17.2 US gal)**
Transmission oil	6.5 l **(1.7 US gal)**
Engine oil	12 l **(3.2 US gal)**
Axles front/rear	22/22 l **(5.8/5.8 US gal)**

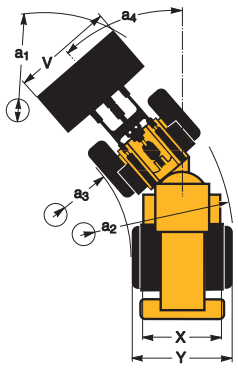
SPECIFICATIONS

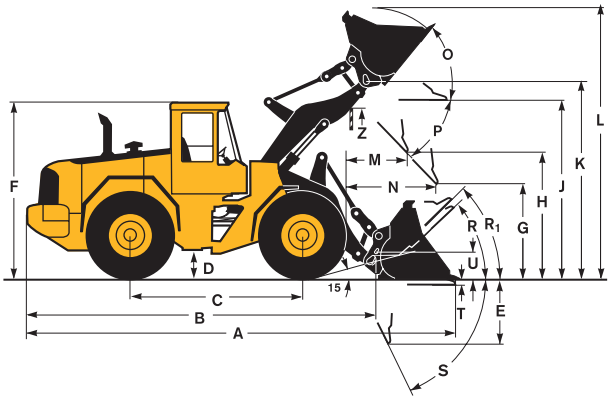
Where applicable, specifications and dimensions are in accordance with ISO 7131, SAE J732, ISO 7546, SAE J742, ISO 14397, SAE J818.

Tires: 17.5 R25 L2

B	5410 mm	**17'9"**
C	2750 mm	**9'0"**
D	400 mm	**1'4"**
F	3030 mm	**9'11"**
G	2130 mm	**7'0"**
J	3470 mm	**11'5"**
K	3740 mm	**12'3"**
O	52 °	
P_{max}	45 °	
R	43 °	
R_1*	48 °	
S	90 °	
T	77 mm	**0'3"**
U	430 mm	**1'5"**
X	1750 mm	**5'9"**
Y	2200 mm	**7'2"**
Z	3060 mm	**10'0"**
a_2	4880 mm	**16'0"**
a_3	2680 mm	**8'10"**
a_4	±40 °	

* Carry position SAE

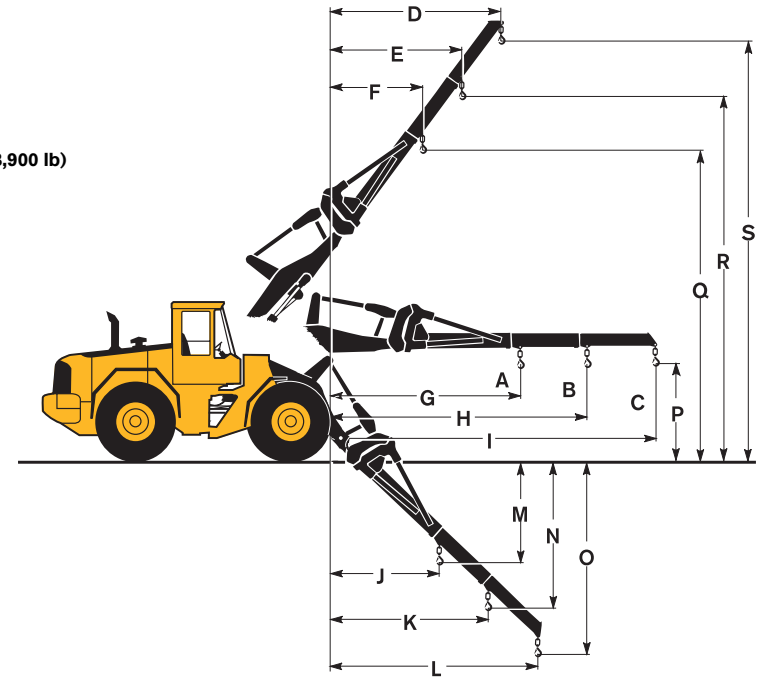




Tires: 17.5 R25 L2

A*	1120 kg	**2,470 lb**
B*	890 kg	**1,960 lb**
C*	720 kg	**1,590 lb**
D	2880 mm	**9'5"**
E	2220 mm	**7'4"**
F	1630 mm	**5'4"**
G	3290 mm	**10'10"**
H	4320 mm	**14'2"**
I	5460 mm	**17'11"**
J	550 mm	**1'10"**
K	690 mm	**2'3"**
L	830 mm	**2'9"**
M	2300 mm	**7'7"**
N	3300 mm	**10'11"**
O	4450 mm	**14'7"**
P	1470 mm	**4'10"**
Q	5060 mm	**16'7"**
R	5910 mm	**19'5"**
S	6840 mm	**22'5"**

Order No: 92007
Operating weight: 8570 kg **(18,900 lb)**



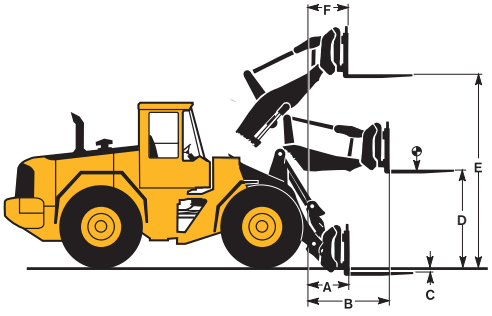
Tires: 17.5 R25 L2

A	820 mm	**2'8"**
B	1580 mm	**5'2"**
C	31 mm	**0'1.2"**
D	1710 mm	**5'7"**
E	3520 mm	**11'7"**
F	750 mm	**2'5"**

Fork tine order No (per tine): 92007

Length:	1200 mm	**3'11"**
Width:	1500 mm	**2'8"**
Rated operating load*:	2730 kg	**6,020 lb**
at load rated distance:	600 mm	**2'0"**
Operating weight:	8630 kg	**19,030 lb**

* acc. std EN 474-3, firm and level ground



Tires 17.5 R25 L2		GENERAL PURPOSE				FLAT FLOOR		GRADING	LIGHT MATERIAL		
		Bolt-on edges	Bolt-on edges	Bolt-on edges	Bolt-on edges	Bolt-on edges	Bolt-on edges		Bolt-on edges	Bolt-on edges	Bolt-on edges
Volume, heaped ISO/SAE	m^3	1,5	1,5	1,3	1,3	1,5	1,5	1,6	2,2	2,2	3,9
	yd^3	**2.0**	**2.0**	**1.7**	**1.7**	**2.0**	**2.0**	**2.1**	**2.9**	**2.9**	**5.1**
Volume at 110% fill factor	m^3	1,7	1,7	1,4	1,4	1,7	1,7	1,8	2,4	2,4	4,3
	yd^3	**2.2**	**2.2**	**1.9**	**1.9**	**2.2**	**2.2**	**2.4**	**3.1**	**3.1**	**5.6**
Static tipping load, straight	kg	5820	5560	5920	5650	5750	5500	4800	5580	5240	4800
	lb	**12,840**	**12,260**	**13,050**	**12,460**	**12,670**	**12,120**	**10,580**	**12,290**	**11,550**	**10,580**
at 35° turn	kg	5230	4970	5320	5060	5150	4910	4280	4990	4670	4240
	lb	**11,530**	**10,970**	**11,730**	**11,160**	**11,360**	**10,830**	**9,440**	**11,010**	**10,310**	**9,360**
at full turn	kg	5050	4800	5150	4890	4980	4740	4130	4820	4510	4080
	lb	**11,140**	**10,590**	**11,350**	**10,780**	**10,970**	**10,450**	**9,110**	**10,630**	**9,940**	**9,000**
Operating load*)	kg	2520	2400	2570	2440	2490	2370	2060	2410	2250	2040
	lb	**5,560**	**5,280**	**5,670**	**5,380**	**5,480**	**5,210**	**4,540**	**5,300**	**4,960**	**4,490**
Breakout force	kN	61,2	57,3	66,4	61,7	62,5	58,3	41,5	49,6	46,3	36,2
	lbf	**13,770**	**12,870**	**14,930**	**13,870**	**14,050**	**13,110**	**9,320**	**11,160**	**10,410**	**8,140**
A	mm	6530	6590	6440	6510	6510	6580	6950	6760	6830	7230
	ft in	**21'5"**	**21'8"**	**21'2"**	**21'4"**	**21'4"**	**21'7"**	**22'10"**	**22'2"**	**22'5"**	**23'9"**
E	mm	940	1000	860	920	920	990	1240	1170	1250	1630
	ft in	**3'1"**	**3'4"**	**2'10"**	**3'0"**	**3'0"**	**3'3"**	**4'1"**	**3'10"**	**4'1"**	**5'4"**
H**)	mm	2820	2770	2870	2830	2830	2790	2460	2670	2600	2340
	ft in	**9'3"**	**9'1"**	**9'5"**	**9'3"**	**9'3"**	**9'2"**	**8'1"**	**8'9"**	**8'7"**	**7'8"**
L	mm	4820	4860	4750	4790	4800	4840	4380	4900	4950	5410
	ft in	**15'10"**	**15'11"**	**15'7"**	**15'8"**	**15'9"**	**15'11"**	**14'4"**	**16'1"**	**16'3"**	**17'9"**
M**)	mm	1000	1050	940	990	980	1030	1150	1180	1220	1490
	ft in	**3'3"**	**3'5"**	**3'1"**	**3'3"**	**3'3"**	**3'5"**	**3'9"**	**3'11"**	**4'0"**	**4'11"**
N**)	mm	1540	1560	1510	1540	1430	1450	1470	1560	1580	1630
	ft in	**5'0"**	**5'2"**	**4'11"**	**5'1"**	**4'8"**	**4'9"**	**4'10"**	**5'2"**	**5'2"**	**5'4"**
V	mm	2300	2300	2300	2300	2300	2300	2500	2380	2380	2500
	in	**91"**	**91"**	**91"**	**91"**	**91"**	**91"**	**98"**	**94"**	**94"**	**98"**
a_1 clearance circle	mm	10 650	10 670	10 610	10 630	10640	10 660	11 250	10 850	10 900	11 240
	ft in	**34'11"**	**35'0"**	**34'10"**	**34'11"**	**34'11"**	**35'0"**	**36'11"**	**35'7"**	**35'9"**	**36'10"**
Operating weight	kg	8640	8800	8590	8750	8710	8850	8830	8740	8900	9180
	lb	**19,050**	**19,400**	**18,940**	**19,290**	**19,200**	**19,510**	**19,470**	**19,270**	**19,610**	**20,240**

*) Rated at Volvo's recommended maximum utilization for L50E.

Note: This only applies to Volvo original attachments.

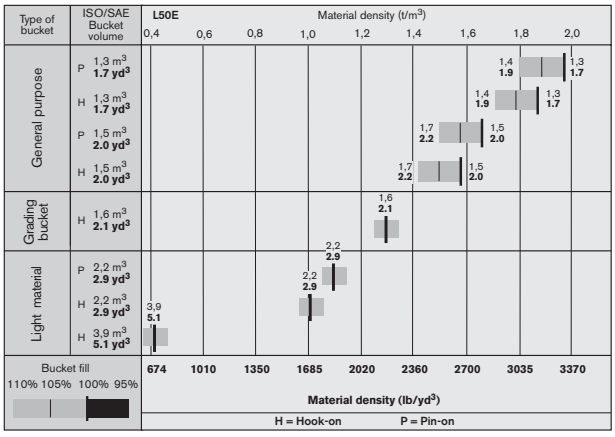
**) Measured to the tip of the bucket teeth or bolt-on edge. Dump height to bucket edge. Measured at 45° dump angle.

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 2,695 lb/yd^3. Result: The 2.0 yd^3 bucket carries 2.1 yd^3. For optimal stability always consult the bucket selection chart.**

Material	Bucket fill, %	Material density, t/m^3	Material density, lb/yd^3	ISO/SAE bucket volume, m^3	ISO/SAE bucket volume, yd^3	Actual volume, m^3	Actual volume, yd^3
Earth/Clay	~ 110	~ 1,80	**~ 3,030**	1,3	**1.7**	~ 1,4	**~ 1.9**
		~ 1,50	**~ 2,530**	1,5	**2.0**	~ 1,7	**~ 2.2**
		~ 1,30	**~ 2,190**	1,7	**2.2**	~ 1,9	**~ 2.4**
Sand/Gravel	~ 105	~ 1,90	**~ 3,200**	1,3	**1.7**	~ 1,4	**~ 1.8**
		~ 1,60	**~ 2,695**	1,5	**2.0**	~ 1,6	**~ 2.1**
		~ 1,30	**~ 2,190**	1,7	**2.2**	~ 1,8	**~ 2.3**
Aggregate	~ 100	~ 1,90	**~ 3,200**	1,3	**1.7**	~ 1,3	**~ 1.7**
		~ 1,80	**~ 3,030**	1,5	**2.0**	~ 1,5	**~ 2.0**
		~ 1,50	**~ 2,530**	1,7	**2.2**	~ 1,7	**~ 2.2**
Rock	≤100	~ 1,70	**~ 2,865**	1,2	**1.6**	~ 1,2	**~ 1.6**

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



Supplemental Operating Data

Tires 17.5 R25 L2			15.5 R25 L2		Axle mounted fenders	
Width over tires	mm	**in**	–60	**–2**	–	**–**
Ground clearance	mm	**in**	–30	**–1**	–	**–**
Tipping load, full turn	kg	**lb**	–190	**–420**	+450	**+990**
Operating weight	kg	**lb**	–320	**–750**	+300	**+660**

STANDARD EQUIPMENT

Engine
Three stage air cleaner with ejector and inner filters
Indicator glass for coolant level
Preheating of induction air
Muffler, spark arresting
Fuel filter, extra large with watertrap
Crankcase with ventilation oil trap
Water separator
Fan air intake protection
Coolant filter
Fuel fill strainer

Electrical system
24V – prewired for optional accessories
Alternator, 24V/80 A
Battery disconnect switch
Fuel gauge
Hour meter
Electric horn
Reverse alarm
Temperature gauge, engine coolant
Temperature gauge, hydrostatic system
Instrument panel with symbols
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 working lights (2 front and 2 rear)
- Instrument lighting

Contronic monitoring system
ECU with log and analysis system
Contronic display
Engine shut down to idle in case of malfunction indication:
- High engine coolant temperature
- Low engine oil pressure
- High oil temperature hydrostatic transmission

Start interlock when gear is engaged
Test function for warning and monitoring lights

Warning and indicator lights:
- Charging
- Oil pressure, engine
- Oil pressure, hydrostatic transmission
- Brake pressure
- Parking brake
- Hydraulic oil level
- Primary steering
- High beams
- Turn signals
- Rotating beacon
- Preheating coil
- Coolant temperature
- Oil temperature hydrostatic transmission
- Low fuel level

Drivetrain
Hydrostatic transmission
Forward and reverse switch by lever console

Tires
17.5 R25 L2

Brake system
Wet oil circulation cooled disc brakes on all four wheels
Dual brake circuits
Dual service brake pedals
Secondary brake system, accumulator supplied
Audible parking brake alarm

Cab
ROPS (ISO 3471), FOPS (ISO 3449)
Lock kit, one combination
Acoustic inner lining
Ashtray
Cigarette lighter
Lockable door
Single key door/start
Cab heating with filter, fresh-air inlet and defroster
Floor mat
Interior light
Two exterior rear-view mirrors
Two interior rear-view mirrors
Openable window right-hand side
Tinted safety glass
Sliding window, right
Sliding window, door
Hip retractable seatbelt (SAE J386)
Operator's seat with high backrest and electrical heating
Adjustable hydraulic lever console
Adjustable steering wheel
Storage compartment
Beverage holder
Sun visor
Windshield wipers front and rear
Windshield washers front and rear
Interval function for front windshield wiper
Cab access steps and handrails
Speedometer

Hydraulic system
Main valve, 2-spool,
Pilot valve, 2-spool
Axial piston pump
Hydraulic control lever lock
Bucket positioner, automatic with position indicator, adjustable
Boom kickout, automatic, adjustable
Boom lowering system
Hydraulic pressure test ports, quick connect
Hydraulic fluid level, sight gauge
Hydraulic oil cooler
Attachment bracket, cast, visibility optimized
Separate attachment locking

External equipment
Noise and vibration dampening suspension of cab, engine and transmission
Lifting lugs
Easy-to-open side panels
Frame steering, joint lock
Vandalism lock prepared for batteries and engine compartment
Towing hitch
Small fenders without wideners or mudflaps

Other equipment
Decals, USA

OPTIONAL EQUIPMENT

Service and maintenance
Toolbox, lockable
Tool kit
Wheel nut wrench kit
Automatic lubrication system
Automatic lubrication system for attachment bracket, cast
Refill pump for automatic lubrication system

Engine equipment
Air pre-cleaner, oil-bath type
Air pre-cleaner, turbo type, one stage
Air pre-cleaner, Sy-Klone type, one stage
Hand throttle control
Engine block heater, 120 V
Radiator, hydraulic oil cooler and fuel cooler, corrosion protected

Electrical system
Working lights front, extra
Working lights rear, extra
License plate holder, lighting
Working lights front, high intensity
Warning beacon, flashing strobe light
Warning beacon, rotating, collapsible
Dual working lights front, on cab

Cab
Installation kit for radio, 11A, 12V, left and right in cab
Radio with cassette player
Radio with CD player
Sun blinds, front and rear windows
Sun blinds, side windows
Operator's seat, air suspended with high backrest and electrical heating
Operator's seat with low backrest and electrical heating
Operator's seat with low backrest
Operator's seat, air suspended, heavy duty
Armrest (left) for operator seat
Retractable hipbelt, longer and wider than standard
Ventilation air filter for work in asbestos environment
Air-conditioning
Air-conditioning with corrosion protected condenser
Automatic temp control (ATC)
Steering wheel knob
Noise reduction kit
Rearview mirrors, electrically heated
Lunch box holder

Drivetrain
100 % differential lock, front
Speed control, inching pedal
Speed limiter, 20 km/h (12.5 mph)
Speed limiter, 30 km/h (18.6 mph)

Hydraulic system
3rd hydraulic function
Adjustable flow for 3rd hydraulic function
Detent for 3rd hydraulic function
3rd and 4th hydraulic function
5th and 6th hydraulic function
Single lever control
Single lever control incl. 3rd hydraulic function
Single acting lifting function
Biodegradable hydraulic fluid
Hydraulic PTO, general purpose
Boom Suspension System (BSS)

External equipment
Large fenders with wideners and mudflaps
Logging counterweight (with approval)

Protective equipment
Guards for front headlights
Guards for working lights, rear
Guards for taillights
Guard for front windshield
Guards for side and rear windows
Cover plate under cab
Front frame for 5th-6th hydraulic function
Bucket teeth protection

Other equipment
Comfort Drive Control (CDC)
Sign, slow moving vehicle
Noise reduction kit, Blauer Engel
Secondary steering
Parking brake, el.-hydraulic
Parking brake alarm, audible

Tires
15.5 R25*

Attachments
Buckets
Fork equipment
Material handling arm
Log grapples
Snow blades
Brooms
Cutting edge in three sections, bolt-on, reversible
Bucket teeth, bolt-on
Bucket teeth, weld-on
Bale clamp
Drum rotator

Boom Suspension System (BSS)*
Gas/oil accumulators connected to the lift cylinders effectively reduce vibrations that often occur when running over rough ground. Boom Suspension System gives faster cycle times, less material spill and improved operator comfort.

Single lever hydraulic control*

The L50E can be equipped with a single hydraulic control lever for operating the lifting, lowering, tilting and floating functions. Forward, reverse and kick-down switches are integrated into the lever for easy and effective control of the hydrostatic transmission.

Comfort Drive Control (CDC)*

Significant reduction of repetitive and tiring steering wheel movements with CDC. Comfortable operation of steering and shifting with user-friendly controls in the left armrest.

3rd and 4th hydraulic functions*

The hydraulic system in the L50E is prepared for installation of a third hydraulic function. The separate third hydraulic function, with its control lever and additional lines, can easily be installed to further increase the machine's flexibility.

L50E can also be equipped with a fourth control lever. This function is necessary when there's a need for a third and fourth hydraulic function, such as when using a sweeper attachment, foldable snowplow or brush mower.

* Optional equipment

Genuine Volvo attachments

Genuine Volvo attachments are designed and manufactured for optimal fit and use of the TP Linkage, which makes the L50E a fast and effective machine in a wide range of applications. They can also be used with earlier models.

Volvo Construction Equipment is different. It's designed, built and supported in a different way. That difference comes from our 170-year engineering heritage. A heritage of thinking first about the people who actually use the machines. About how to help them be safer, more comfortable, more productive. About the environment we all share. The result of that thinking is a growing range of machines and a global support network dedicated to helping you do more. People around the world are proud to use Volvo. And we're proud of what makes Volvo different – **More care. Built in.**

All products are not 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

Construction Equipment

Volvo Construction Equipment North America, Inc.
One Volvo Drive, Asheville, NC 28803-3447
www.volvoce.com

Ref. No. 22 B 100 1516 English
Printed in USA 03/06 – 5,0 USA
Volvo, Asheville