

VOLVO WHEEL LOADER

L180E



VOLVO

L180E - MEET THE PRODUCER

The Volvo L180E is an outstandingly powerful machine. A high production loader with an impressive 300 hp under the hood. It's also dynamic, agile and easy to operate. Behind the wheel of the L180E, you'll be moving material both quicker and more cost efficiently than you would with any competitive machine. And you can be sure that impact on the machine, operator and environment are minimized. The result? Superior profitability, making the L180E as much fun to own as it is to operate.

The Volvo L180E is ideal for tough tasks before and after the crusher. Typical applications include loading trucks, feeding the crusher, or just moving material. The key to its strength and agility lie in the electronically-controlled engine, smooth shifting transmission, smart load sensing hydraulics and the versatile TP Linkage. The result is high breakout torque, quick and precise movements, and low fuel consumption.

Higher productivity with less effort

You'll find the L180E a pleasure to operate. In this respect, competing loaders simply can't compete. It's powerful, agile and easy to maneuver. Sitting comfortably in an ergonomically-designed seat, you have total control over the machine. Engine and hydraulics respond immediately to your commands. Visibility is panoramic and the air in the cab is always fresh. Both operator and machine get more done with a lot less effort.

A great deal for your investment

Proven reliability, excellent financing, extremely low fuel consumption and a high trade-in value provide the cornerstones of a safe investment. Add to that outstanding handling and productivity, a market-leading operator environment to protect the person in the machine, quick and simple daily maintenance and modest service requirements.

And what do you get? The most cost efficient loader in its class, delivering unparalleled profitability – both now and in years to come. With the L180E, everybody is a winner. Quite simply, a great deal for your money.



Specifications L180E

Engine:	Volvo D12C LC E2	
Max. power at	23,3 r/s	(1400 rpm)
SAE J1995 gross:	223 kW	(303 hp)
ISO 9249,		
SAE J1349 net:	221 kW	(300 hp)
Breakout force:	204,9 kN*	(46,060 lbf)
Static tipping load		
at full turn:	18 070 kg*	(39,840 lb)
Buckets:	3,7 - 14,0 m ³	(5.9-18.3 yd³)
Log grapples:	1,6 - 3,7 m ²	(17.2-39.8 ft²)
Operating weight:	26,0 - 29,0 t	(57,320-63,930 lb)
Tires:	26.5 R25	
	775/65 R29	

* Bucket: 4,6 m³ **(6.0 yd³)** with bolt-on edges,
Tires: 26.5 R25 L3, Standard boom



POWER UP YOUR PRODUCTIVITY

Load more tons per hour with the Volvo L180E. Its powerful engine and the fully Automatic Power Shift (APS) gearshifting system provide immediate response even in the toughest conditions. And Volvo axles are designed to ensure that the rimpull is there when needed. Torque Parallel Linkage (TP Linkage), load sensing hydraulics, smooth steering and stable operation help make the L180E a precision performer.

The only thing modest about this machine is its fuel consumption

Even at low rpm, the 12 liter high-performance engine delivers full power and maximum torque. The machine responds quickly and forcefully with excellent rimpull, full hydraulic power, low fuel consumption and low-emissions. And thanks to the low rpm performance, the service life of the engine is extended.

Responds to your commands

The Volvo fully-automatic countershaft transmission provides smooth and effective gearshifting. All the operator has to do is select forward or reverse and APS automatically selects the right gear according to both engine rpm and ground speed. Volvo's in-house engineered axles and drivetrain are well-matched and designed for top dependability. And Volvo's oil circulation-cooled wet disc brakes provide smooth, effective braking – and, of course, a long service life.

Torque Parallel Linkage – a breakthrough in the industry

The reliable TP Linkage, Volvo's patented lift-arm system, delivers high and even breakout torque throughout the entire lifting range. The system is exceedingly user-friendly. The operator can easily handle heavy materials and maintain full control in all positions.

Hydraulics that make sense

The Volvo L180E features an intelligent load sensing system for both the main and steering hydraulics. Two variable piston pumps provide the exact flow and pressure required at any given moment, distributing power when and where it's needed. In addition to rapid response, this system facilitates smoother operation, lower fuel consumption and precise control, even at low rpm.

Engine

- Volvo D12C, a turbocharged, air-to-air intercooled, low-emission engine with electronically-controlled fuel injection, delivers high torque even at low rpm.
- The electronically-controlled hydrostatic fan is only activated when necessary, thus saving fuel.

Transmission

- With Volvo's third generation of APS, the operator can select between four different operating modes, including the new AUTO function, which adaptively chooses the most convenient shifting program for the job at hand, equally weighing the operator's driving habits together with the operating cycle.
- The third generation APS now has fully-automatic shifting 1-4, meaning all the operator has to do is choose forward or reverse.

Axles/Brakes

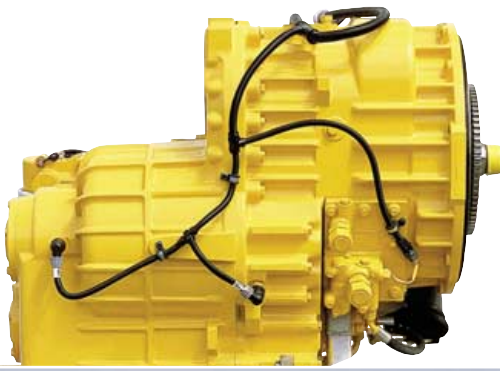
- The Volvo axles are fully-integrated with the drivetrain, delivering superior rimpull.
- Oil circulation-cooled wet disc brakes ensure effective braking and a long service life.
- An electronic brake test in Contronic gives you instant access to the status of the brakes.
- A brake wear indicator on each wheel allows you to easily check the brake pad wear.

Steering

- Load sensing steering only uses power when it's needed, thereby saving fuel.
- E-series loaders feature an accumulator system, providing stable, smooth steering and greater safety.

Frame

- Rugged frame design for secure mounting of components increases the service life of the machine.
- Volvo's frame joint bearing design is a well-proven concept that's easy to maintain and renowned for its long service life.



TP Linkage

- Unique patented lift-arm system, which provides two solutions in one: excellent breakout torque and parallel action throughout the entire lifting range.

Load sensing hydraulics

- The load sensing hydraulic system ensures that hydraulic oil is pumped around the system only when and where it's needed. This means greater efficiency and lower fuel consumption.

- Pilot-operated hydraulics allow precise control of the attachments, making life easier, and safer, for the operator.

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.



A clean and comfortable workplace

The right cab climate does wonders for efficiency, keeping operators sharp during long shifts. In fact, all incoming air is filtered in two stages, making this one of the cleanest cabs on the market. Even the recirculated air is filtered. Furthermore, Volvo's state-of-the-art air-conditioning* provides a pleasant temperature year-round, regardless of outdoor conditions. So even after a long work shift, the air in the cab is still fresh, and the operator's mind is still clear.

Comfort and productivity go hand-in-hand

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 situated both on the lever on the left-hand side of the steering wheel and on the hydraulic console to the right. And thanks to Comfort Drive Control (CDC)*, you can steer, change directions and Kick-down to first gear with easy-to-use controls integrated into the left-hand armrest – an excellent way to combat fatigue and static muscle strain. Furthermore, to avoid monotonous arm movements, you can shift at any time from lever steering to using the steering wheel.

Contronic keeps an eye on everything

Contronic, the highly reliable control and monitoring system from Volvo, continuously monitors the machine's operation and performance. The system is an electronic network made up of three computers. Operating at three levels, the system keeps an eye on the machine's various 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 also 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 tool. With VCADS Pro, it's also possible to check and adjust the machine's functions and performance characteristics.

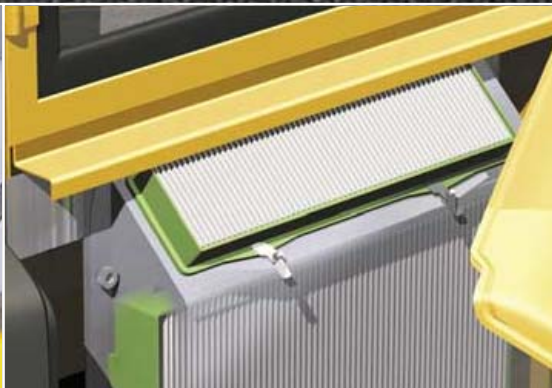
Low noise levels

Thanks to the ingenious viscous cab mounts and heavy-duty insulation, the Care Cab is one of the quietest cabs on the market. By reducing tiresome earfuls and annoying vibrations, the operator will stay sharp throughout the shift. In short, it's a great place to work.

Care Cab

- Unrivalled operator environment with one of the market's best cab filtration systems.
- Pleasant interior with superior finish makes it easy-to-maintain and keep clean.
- Adjustable seat, armrest, hydraulic lever console and steering wheel* for optimal operator comfort and high production.
- Contronic, a superior control and monitoring system, designed to increase safety and productivity.
- All service platforms and entry ladders boast improved anti-slip surfaces. Sloped entry ladder for easy cab access.
- Standard viscous cab mounts feature a silicon fluid and rubber compound that work together to dampen cab vibrations and increase operator comfort.
- Large windscreens, narrow pillars and a sloped engine hood ensure good panoramic visibility, thus further increasing safety.
- Powerful halogen lighting to the front and rear provides good visibility over the entire work area.

* Optional equipment



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 L180E has to be a winner – both in day-to-day and long-term operations, always operating economically with maximum consideration of the environment. 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 both good for your business and for the environment.

Comfortable and quiet operator's environment

The operator inside deserves a comfortable, reliable and safe machine to work with. A good environment helps to spare operator, equipment and nature for years to come. The Volvo L180E 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

The L180E is almost completely 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 as 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 L180E.

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 L180E 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 all ways 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 L180E has steps and platforms that are equipped with anti-slip surfaces and well positioned hand rails.

Environment

- The low rpm, high-performance D12C engine meets all current emission requirements according to Tier 2/Stage 2 legislation in the US and Europe.
- The L180E is manufactured in environmentally certified factories according to ISO 14001.
- The L180E is more than 95% recyclable according to material weight.
- Low external and internal sound levels.



VOLVO L180E IN DETAIL

Engine

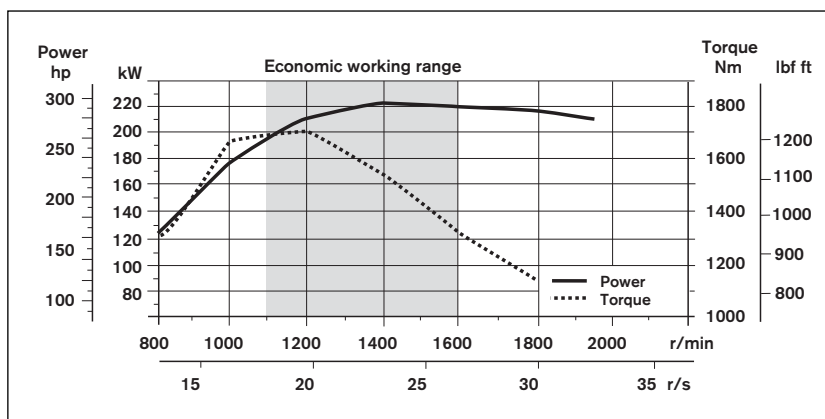
12 liter, 6-cylinder straight turbocharged diesel engine with 4 valves per cylinder, overhead camshaft and electronically-controlled unit injectors. The engine has wet replaceable cylinder liners and replaceable valve guides and valve seats. The throttle application is transmitted electrically from the throttle pedal or the optional hand throttle. Air cleaning: three-stage. Cooling system: Air-to-air intercooler and hydrostatic, electronically-controlled fan.

Engine	Volvo D12C LC E2
Max power at	23,3 r/s (1,400 rpm)
SAE J1995 gross	223 kW (303 hp)
ISO 9249, SAE J1349	221 kW (300 hp)
Max torque at	20,0 r/s (1,200 rpm)
SAE J1995 gross	1700 Nm (1,254 lbf ft)
ISO 9249, SAE J1349	1690 Nm (1,247 lbf ft)
Economic working range	1100–1600 rpm
Displacement	12 l (732 in ³)

Electrical system

Central warning system: Central warning light for the following functions (buzzer with gear engaged): Engine oil pressure, charge air temperature, transmission oil pressure, brake pressure, parking brake applied, hydraulic oil level, steering pressure, low coolant level, coolant temperature, transmission oil temperature, hydraulic oil temperature, overspeeding in engaged gear, brake charging, axle oil temperature.

Voltage	24 V
Batteries	2x12 V
Battery capacity	2x170 Ah
Cold cranking capacity, approx.	1150 A
Reserve capacity, approx.	350 min
Alternator rating	1540 W/55 A
Starter motor output	7,0 kW (9.5 hp)



Drivetrain

Torque converter: single-stage. Transmission: Volvo countershaft transmission with single lever control. Fast and smooth shifting of gears between forward and reverse with Pulse Width Modulation (PWM) valve. Gear-shifting system: Volvo Automatic Power Shift (APS) with fully automatic shifting 1-4 and mode selector with four different gear shifting programs, including AUTO. Axles: Volvo fully-floating axle shafts with planetary hub reductions and cast steel axle housings. Fixed front axle and oscillating rear axle. 100% differential lock on the front axle.

Transmission	Volvo HTE 220
Torque multiplication	2,04:1
Maximum speed, forward/reverse	
1	6,6 km/h (4.1 mph)
2	12,4 km/h (7.7 mph)
3	24,9 km/h (15.5 mph)
4	37,3 km/h (23.2 mph)
Measured with tires	26.5 R25 L3
Front axle/rear axle	Volvo/AWB 40/40
Rear axle oscillation	±15°
Ground clearance at 15° osc.	610 mm (24.0 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. The operator can select automatic declutch of the transmission when braking through Contronic. Parking brake: Fully sealed, wet multi-disc brake built into the transmission. Applied by spring force and electro-hydraulically released with a switch on the instrument panel. 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	2x1,0 l (2x0.26 US gal) 1x0,5 l (1x0.13 US gal)
Accumulators for parking brake	1x0,5 l (1x0.13 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	100 mm (3.94 in)
Piston rod diameter	50 mm (1.97 in)
Stroke	418 mm (16.5 in)
Working pressure	21 MPa (3,046 psi)
Maximum flow	190 l/min (50.2 US gpm)
Maximum articulation	±37°

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 70 dB (A)
External sound level according to ISO 6395 (Directive 2000/14/EC)	LwA 108 dB (A)
Ventilation	9 m³/min (318 ft³/min)
Heating capacity	11 kW (37,500 Btu/h)
Air-conditioning (optional)	8 kW (27,300 Btu/h)

Hydraulic system

System supply: Two load sensing axial piston pumps with variable displacement. The steering system always has priority. Valves: Double-acting 2-spool valve. The main valve is controlled by a 2-spool pilot valve. Lift function: The valve has four positions 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, pump 1	25,0 MPa (3,625 psi)
Flow at and engine speed	234 l/min (61.2 US gpm) at 10 MPa (1,450 psi) and 32 r/s (1,900 rpm)
Working pressure, pump 2	25,0 MPa (3,625 psi)
Flow at and engine speed	190 l/min (50.2 US gpm) at 10 MPa (1,450 psi) and 32 r/s (1,900 rpm)
Pilot system Working pressure	3,5 MPa (508 psi)
Cycle times	
Raise*	7,2 s
Tilt*	2,0 s
Lower, empty	3,7 s
Total cycle time	12,9 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	180 mm (7.1 in)
Piston rod diameter	90 mm (3.5 in)
Stroke	788 mm (31.0 in)
Tilt cylinder	1
Cylinder bore	250 mm (9.8 in)
Piston rod diameter	120 mm (4.7 in)
Stroke	480 mm (18.9 in)

Service

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

Refill capacities

Fuel tank	335 l (88.5 US gal)
Engine coolant	44 l (11.6 US gal)
Hydraulic oil tank	156 l (41.2 US gal)
Transmission oil	45 l (11.9 US gal)
Engine oil	48 l (12.7 US gal)
Axles front/rear	45/55 l (11.9/14.5 US gal)

SPECIFICATIONS

Tires: 26.5 R25 L3

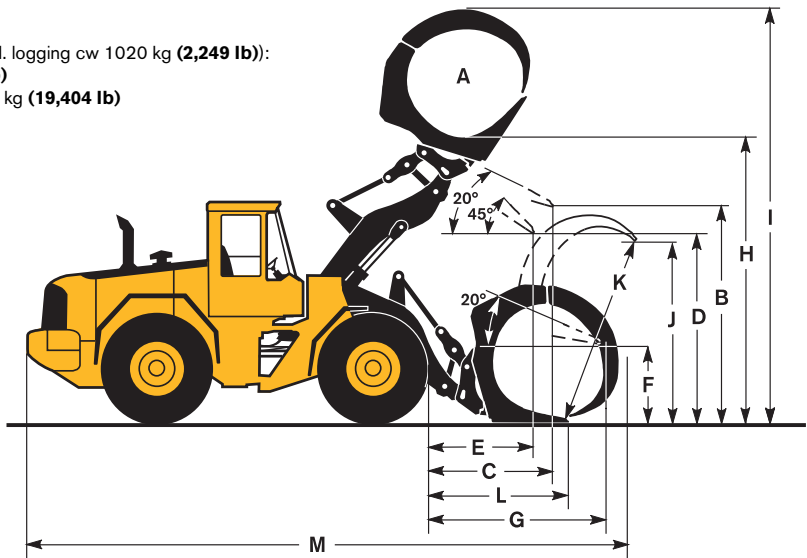
Standard boom		Long boom	
B	7180 mm 23'7"	7640 mm	24'9"
C	3550 mm 11'8"	—	—
D	440 mm 1'5"	—	—
F	3580 mm 11'9"	—	—
G	2130 mm 7'0"	—	—
J	4070 mm 13'4"	4580 mm	15'0"
K	4480 mm 14'8"	4980 mm	16'4"
O	57 °	—	—
P _{max}	49 °	—	—
R	45 °	48 °	—
R ₁ *	48 °	—	—
S	70 °	63 °	—
T	113 mm 0'4"	—	—
U	560 mm 1'10"	—	—
X	2280 mm 7'6"	—	—
Y	2950 mm 9'8"	—	—
Z	3810 mm 12'6"	4170 mm	13'8"
a ₂	6780 mm 22'3"	—	—
a ₃	3830 mm 12'7"	—	—
a ₄	±37 °	—	—

* Carry position SAE

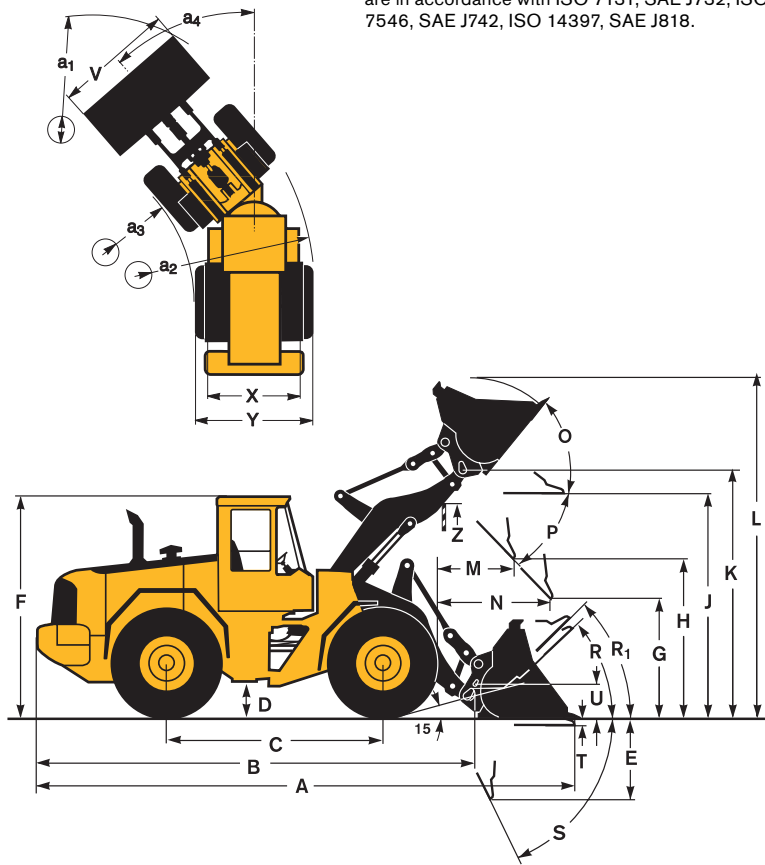
Tires: 800/65 R29

A	3,1 m ²	33,3 ft ²
B	3810 mm	12'6"
C	2090 mm	6'10"
D	3110 mm	10'2"
E	1630 mm	5'4"
F	1630 mm	5'4"
G	2990 mm	9'10"
H	5130 mm	16'10"
I	7400 mm	24'3"
J	3080 mm	10'1"
K	3340 mm	10'11"
L	2410 mm	7'11"
M	9810 mm	32'2"

Operating weight (incl. logging cw 1020 kg (2,249 lb)):
28 210 kg (62,203 lb)
Operating load: 8800 kg (19,404 lb)












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



Supplemental Operating Data

Tires 26.5 R25 L3	Standard Boom				Long Boom					
	26.5 R25 L5		800/65 R29		26.5 R25 L5		800/65 R29			
Width over tires	mm	in	+30	+1.2	+130	+5.1	+30	+1.2	+130	+5.1
Ground clearance	mm	in	+30	+1.2	+20	+0.8	+30	+1.2	+20	+0.8
Tipping load, full turn	kg	lb	+700	+1,543	+620	+1,367	+680	+1,499	+540	+1,190
Operating weight	kg	lb	+970	+2,139	+920	+2,029	+970	+2,139	+920	+2,029

Tires 26.5 R25 L3	GENERAL PURPOSE					ROCK*	LIGHT MTRL	LONG BOOM	
	 Teeth & Segments	 Bolt-on edges	 Bolt-on edges	 Bolt-on edges	 Bolt-on edges	 Teeth & Segments	 Bolt-on edges	 Bolt-on edges	 Bolt-on edges
Volume, heaped ISO/SAE	m ³ 4,8 yd ³ 6.3	4,8 6.3	4,6 6.0	4,8 6.3	4,8 6.3	4,2 5.5	7,8 10.2	4,0 5.2	6,8 8.9
Volume at 110% fill factor	m ³ 5,3 yd ³ 6.9	5,3 6.9	5,1 6.7	5,3 6.9	5,3 6.9	—	8,6 11.2	4,4 5.8	7,5 9.8
Static tipping load, straight	kg 20 940 lb 46,160	20 530 45,260	20 700 45,640	17 240 38,010	20 510 45,220	21 730 47,900	19 580 43,160	17 470 38,510	16 570 36,530
at 35° turn	kg 18 570 lb 40,950	18 190 40,100	18 340 40,430	14 940 32,940	18 170 40,060	19 270 42,470	17 270 38,080	15 450 33,060	14 580 32,140
at full turn	kg 18 300 lb 40,350	17 930 39,530	18 070 39,840	14 680 32,370	17 900 39,460	17 900 41,850	17 010 37,500	15 220 33,550	14 350 31,640
***Operating Load	kg 8240 lb 18,160	8070 17,790	8130 17,930	6610 14,570	8060 17,760	8540 18,830	7660 16,880	6850 15,100	6460 14,240
Maximum Material Density (100% Fill Factor)	kg/cm 1710 lb/cy 2,880	1680 2,820	1770 2,990	1370 2,310	1670 2,820	2030 3,420	980 1,650	1720 2,900	950 1,600
Breakout force	kN 216,8 lbf 48,740	196,6 44,200	204,9 46,060	200,3 45,030	212,0 47,660	203,7 45,790	150,6 33,860	228,9 51,460	166,6 37,450
A	mm 9040 ft in 29'8"	8860 29'1"	8790 28'10"	8910 29'3"	8810 28'11"	9090 29'10"	9340 30'8"	9190 30'2"	9730 31'11"
E	mm 1590 ft in 5'3"	1400 4'7"	1340 4'5"	1470 4'10"	1380 4'6"	1400 5'4"	1840 6'0"	1330 4'4"	1800 5'11"
H*)	mm 2950 ft in 9'8"	3080 10'1"	3120 10'3"	3040 10'0"	3090 10'2"	2940 9'8"	2700 8'10"	3660 12'0"	3250 10'8"
L	mm 6180 ft in 20'3"	6190 20'4"	6180 20'3"	6150 20'0"	6110 20'1"	6320 20'9"	6310 20'8"	6510 21'4"	6720 22'11"
M*)	mm 1470 ft in 4'10"	1280 4'2"	1230 4'0"	1370 4'6"	1290 4'3"	1520 5'0"	1580 5'2"	1250 4'1"	1560 5'1"
N*)	mm 2050 ft in 6'9"	1930 6'4"	1910 6'3"	1980 6'6"	1940 6'4"	2090 6'10"	2030 6'8"	2310 7'7"	2480 8'2"
V	mm 3230 ft in 10'7"	3200 10'6"	3200 10'6"	3400 11'2"	3400 11'2"	3400 10'7"	3230 11'2"	3200 10'6"	3200 10'6"
a, clearance circle	mm 14 910 ft in 48'11"	14 780 48'6"	14 750 48'5"	15 000 49'3"	14 960 49'1"	14 960 49'1"	15 210 49'11"	15 030 49'4"	15 300 50'2"
Operating weight	kg 26 260 lb 57,880	26 480 58,380	26 430 58,270	26 770 59,020	26 460 58,330	27 700 61,060	26 830 59,150	26 290 57,960	26 790 59,060

*) With L5 tires





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. (Spade nose buckets at 42°.)

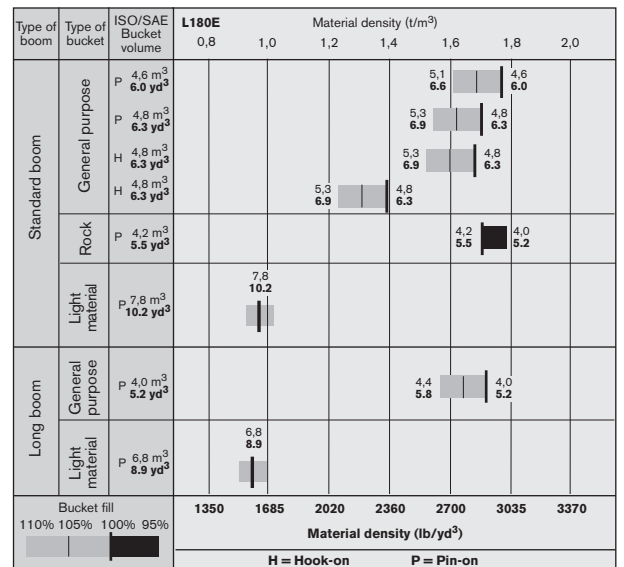
***) Rated at Volvo's recommended maximum utilization for L180E.

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 2,780 lb/yd³. Result: The 6.0 yd³ bucket carries 6.3 yd³. For optimum stability, always consult the bucket selection chart.**

Material	Bucket fill, %	Material density,		ISO/SAE bucket volume,		Actual volume,	
		t/m ³	lb/yd ³	m ³	yd ³	m ³	yd ³
Earth/Clay	~ 110 	~ 1,60	~ 2,700	4,4	5.8	~ 4,8	~ 6.3
		~ 1,55	~ 2,610	4,6	6.0	~ 5,1	~ 6.7
		~ 1,45	~ 2,445	4,8	6.3	~ 5,3	~ 6.9
Sand/Gravel	~ 105 	~ 1,70	~ 2,865	4,4	5.8	~ 4,6	~ 6.0
		~ 1,65	~ 2,780	4,6	6.0	~ 4,8	~ 6.3
		~ 1,50	~ 2,530	4,8	6.3	~ 5,1	~ 6.7
Aggregate	~ 100 	~ 1,80	~ 3,035	4,4	5.8	~ 4,4	~ 5.8
		~ 1,70	~ 2,865	4,6	6.0	~ 4,6	~ 6.0
		~ 1,60	~ 2,700	4,8	6.3	~ 4,8	~ 6.3
Rock	≤100 	~ 1,70	~ 2,865	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.



STANDARD EQUIPMENT

Engine

Three-stage air cleaner with ejector and inner filter
Indicator glass for coolant level
Preheating of induction air
Two fuel filters
Fuel fill strainer
Coolant filter
Oil trap

Electrical system

24 V, prewired for optional accessories
Alternator, 24 V/55 A
Air filter for alternator
Battery disconnect switch
Fuel gauge
Hour meter
Electric horn
Reverse alarm
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

Conronic monitoring system

ECU with log and analysis system
Conronic display
Fuel consumption
Ambient temperature
Engine shutdown to idle in case of malfunction indication:
• High engine coolant temperature
• Low engine oil pressure
• High transmission oil temperature
Start interlock when gear is engaged
Brake test
Test function for warning and indicator lights
Warning and indicator lights:
• Charging
• Oil pressure engine
• Oil pressure transmission
• Brake pressure
• Parking brake
• Hydraulic oil level

- Axle oil temperature
- Primary steering
- Secondary steering
- High beams
- Turn signals
- Rotating beacon
- Preheating coil
- Differential lock
- Coolant temperature
- Transmission oil temperature
- Brake charging
- Level warnings:
 - Engine oil level
 - Coolant level
 - Transmission oil level
 - Hydraulic oil level
 - Washer fluid level

Drivetrain

Automatic Power Shift with operator-controlled declutch function for transmission cut-out when braking and mode selector with AUTO function
Fully automatic shifting gears 1-4
PWM-control between different gear positions
Forward and reverse switch by lever console
Differentials:
front: 100% hydraulic diff lock
rear: conventional

Tires

26.5 R25

Brake system

Wet oil circulation cooled disc brakes on all four wheels
Dual brake circuits
Dual service brake pedals
Secondary brake system
Parking brake, el-hydraulic
Brake wear indicator

Cab

ROPS (ISO 3471), FOPS (ISO 3449)
Lock kit, one combination
Acoustic inner lining
Ashtray
Cigarette lighter
Lockable door
Cab heating with filter, fresh-air inlet and defroster

Floor mat
Interior light
Interior rearview mirror
2 exterior rearview mirrors
Openable window right-hand side
Sliding window, right
Sliding window, door
Tinted safety glass
Hip retractable seatbelt (SAE J386)
Adjustable steering wheel
Adjustable lever console
Operator's seat with high backrest and electrical heating
Storage compartment
Sun visor
Beverage holder
Windshield washers front and rear
Windshield wipers front and rear
Interval function for front and rear windshield wipers
Service platforms with anti-slip surfaces on front and rear fenders
Speedometer

Hydraulic system

Main valve, 2-spool
Pilot valve, 2-spool
Variable displacement axial piston pumps (3) for:
• working hydraulics
• steering system, pilot hydraulics and brakes
• fan motor
Boom lowering system
Boom kickout, automatic, adjustable
Bucket positioner, automatic with position indicator, adjustable
Hydraulic oil cooler

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

Other equipment

Decals, USA

OPTIONAL EQUIPMENT

(Standard on certain markets)

Service and maintenance

Tool box, lockable
Tool kit
Automatic lubrication system
Automatic lubrication system inclusive long boom
Automatic lubrication system for attachment bracket, welded
Refill pump for automatic lubrication system
Wheel nut wrench kit
Grease nipple guards
Oil sampling valve

Engine equipment

Engine block heater, 120 V
Engine block heater, 230 V
Air pre-cleaner, oil-bath type
Air pre-cleaner, turbo type
Air pre-cleaner, Sy-Klone type
Hand throttle control
Fuel filter, extra large with water trap
Fuel filter, with water trap and heating
Radiator, corrosion protected
Fan air intake protection
Reversible cooling fan
Reversible cooling fan in combination with axle oil cooler

Electrical system

Alternator, 80 A
Working light, attachments
Working lights front, extra
Working lights rear, extra
Working lights front, on cab, dual
Working lights front, high intensity
Assymetrical lights for left-hand traffic
Reverse light
Shortened headlight support brackets
Warning beacon, flashing strobe light
Warning beacon, rotating, collapsible
Battery disconnect switch, additional in cab
Side marker lamps
Fire suppression system

Cab

Installation kit for radio
Radio with tape recorder

Radio with CD-player
Sun blinds, front and rear windows
Sun blinds, side windows
Retractable hipbelt, longer and wider than standard
Air-conditioning with corrosion prot. condenser
Air-conditioning with corrosion prot. condenser and automatic temp. control (ATC)
Ventilation air filter for work in asbestos environment
Operator's seat with low backrest
Operator's seat with low backrest and electrical heating
Operator's seat air suspended with high backrest and electrical heating
Instructor's seat
Armrest (left) for operator seat
Steering wheel knob
Noise reduction kit
Rearview camera incl. monitor
Rearview mirrors, el. heated
Cab ladder, rubber suspended
Reinforced cab for waste handling

Drivetrain

Limited slip rear
Speed limiter 20 km/h
Speed limiter 30 km/h
Wheel/axle seal guards

Brake system

Oil cooler for front and rear axle
Oil cooler for front and rear axle in comb. with reversible fan

Hydraulic system

Single lever control
Single lever control for 3rd hydraulic function
3rd hydraulic function
3rd hydraulic function for long boom
3rd-4th hydraulic function
Boom Suspension System
Biodegradable hydraulic fluid
Attachment bracket, welded
Artic kit, attachment locking hoses and 3rd hydraulic function
Artic kit, pilot hoses and brake accum. incl. hydraulic oil
Separate attachment locking, standard boom
Separate attachment locking, long boom
Return-to-dig
Hydraulic oil cooler, extra

Hydraulic oil cooler, extra, in combination with axle oil cooler

External equipment

Long boom
Mudguards widener front/rear
Mudguards, fixed front and swing out rear
Deleted front mudguards and rear wideners
Logging counterweight

Protective equipment

Guards for front headlights
Guards for taillights
Guards for taillights, heavy-duty
Guards for side and rear windows
Guards for radiator grille
Windshield guard
Bellyguard front
Bellyguard rear
Bellyguard, oil pan
Cover plate front frame, heavy-duty
Cover plate, under cab
Guards for steer cylinder
Guards for boom cylinder hose and tube
Corrosion protection, painting of machine
Corrosion protection, painting of attachment bracket
Bucket teeth protection

Other equipment

Comfort Drive Control, CDC
Secondary steering
Sign, slow moving vehicle
CE-marking

Tires

775/65 R29

Attachments

Buckets:
• Straight with/without teeth
• Spade nose with/without teeth
• High tipping
• Light materials
Bolt-on and weld-on bucket teeth
Cutting edge in three sections, bolt-on
Fork equipment
Material handling arm
Log grapples

Boom Suspension System (BSS)*

BSS utilizes gas/oil accumulators connected to the lift cylinders to absorb shocks and smooth out rough roads for faster cycle times, less spillage and increased operator comfort.



Automatic Lubrication System*

Our factory-fitted Automatic Lubrication System takes care of greasing while the machine is in operation. This means less downtime for scheduled maintenance and more time for productive work.



Comfort Drive Control (CDC)*

CDC significantly reduces repetitive and tiring steering wheel movements. The operator can shift and steer easily with the aid of controls integrated in the left armrest.



3rd and 4th hydraulic functions*

Volvo wheel loaders can be equipped with third and fourth hydraulic functions, which are operated with additional control levers. These functions are necessary when there's a need to operate a third and fourth hydraulic function at the same time, such as when using a timber grapple with hydraulic heel kick-out.

Volvo genuine attachments

Volvo offers a wide range of attachments and wear parts, including the new Volvo Tooth System. Volvo genuine attachments are designed for all types of applications, from handling timber to breaking out hard and rocky materials, such as shot rock.



Spade nose rock bucket with teeth



Standard bucket with teeth



Standard bucket with edge savers



Timber grapple/Sorting grapple



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

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