

VOLVO EXCAVATORS

EW160B



VOLVO

Tradition and innovation in perfect harmony

The new generation of Volvo wheeled excavators is a logical development of earlier models. At the same time, it's a whole new machine where well-proven design solutions and new technology meet. Perfect harmony between tradition and innovation has resulted in an excavator that stands in a class of its own. Featuring Volvo's own new engines, refined hydraulics and a wide variety of new solutions, the new generation wheeled excavators are just as good at lifting and travelling as they are at digging. A complete machine that's perfect for any job – both on and off the road.



Innovation at every turn

When we designed the EW160B, we examined every component of our excavators to determine how to maximise comfort, reliability, productivity and serviceability. And we focused on a few key areas to make it happen. The result is a new Volvo-designed engine that's reliable and powerful, built to perfectly match hydraulic output levels for maximum productivity. A hydraulic system that's both tough and intelligent, designed to respond to the slightest operator command. A cab with a full range of operator conveniences and comfort help to make the work day as smooth as possible. Features throughout the machine have been designed to simplify routine maintenance, for more uptime to get the job done.

At your service

Take a look at the wide variety of innovations we added to the EW160B. Remember that every Volvo excavator is backed by complete customer support from the worldwide network of Volvo dealers and their service and parts organizations.

Specifications EW160B

Engine: Volvo D6D EJE2
Rated power at: 33 r/s (2000 r/min)
SAE J1995, gross: 110 kW (148 hp)
ISO9249, SAE J1349, net: 103 kW (138 hp)

Breakout force: 98,5 kN
22,144 lb
Bucket: 0.19–0.83 m³
0.25~1.09 yd³
Max. digging reach: 9.7 m
31'10"

Max. digging depth: 6.3 m
20'8"
Max. travel speed: 35 km/h
21.7 mph
Operating weight: 15.8–17.5 t
34,960~38,580 lb



Outstanding performance



We've designed an engine with optimal productivity

One of the greatest improvements on the new excavators are the new Volvo in-house produced six-cylinder, low-emission engines. Using vast experience and well-proven technology, we've designed an engine with optimal productivity that goes beyond all known environmental requirements, with less sound and lower fuel consumption than the predecessors.

Our engines are extremely fuel efficient, and this means minimized hazardous emissions without any power loss. Since the engines are matched to the hydraulics, it's possible to operate at low engine speeds and still maintain quick movement of the digging equipment.

The new engine, the advanced hydraulics and the outstanding digging geometry combine to make the EW180B excavator perfect in a wide range of applications. It's a complete excavator, just as good at lifting and traveling as it is at digging. Excellent off-road mobility and on-road capacity allow you to maintain higher average speed, fast travel between different work sites.

Excellent maneuverability, even at low engine speeds

Volvo's advanced hydraulic system has been further refined for the new generation's excavators, making the new machines extremely smooth and maneuverable. The hydraulics pump oil to the functions only when it's needed, and all power is concentrated to the activated function. The operator has complete control of the machine and attachment, giving a feeling of being one with the machine.

The system is designed and built using proven and highly reliable components – optimized for Volvo – enabling simultaneous activation of several movements and giving the operator safe control of both load and attachment. This provides excellent maneuverability, even at low engine speeds. We dare say that it's the best hydraulic system on the market. With Volvo's unique float mode, production increases while reducing fuel consumption and wear.

High average speed guarantees high productivity

The excavators feature world class digging and lifting forces. An engine with high torque drives the hydraulic system, delivering both high working pressure and high flow. High forces and quick movements combined with outstanding maneuverability guarantee high productivity.

Just as good at lifting high as it is at digging deep

With two different digging booms, a wide range of dipper arm lengths and attachments, there's a solution to all needs. Rugged booms and dipper arms are dimensioned for the most extreme stresses. And, with Volvo's tried-and-tested hydraulic quick-coupler, you can change attachments without leaving the cab. Unbeatable flexibility that generates productivity. The unique boom geometry also delivers higher lift and very good dumping height, and that means faster work cycles. These new excavators are just as good at lifting high as they are at digging really deep.

Engine

New turbocharged, air-to-air intercooled six-cylinder, low-emission Volvo engine, built specifically for use in Volvo excavators, easily meets EPA Tier 2 requirements.

The electronically-controlled fuel injection provides quick response, lower fuel consumption and faster work cycles.

High engine output gives top class performance.

Three-step air cleaner increases the engine lifetime and lower operating cost.

Auto-idling system reduces noise and fuel consumption.

Hydraulics

State-of-the-art hydraulic system gives you excellent maneuverability with minimal power losses.

One-touch power boost for increase in digging and lifting forces.

Durable, aluminium core oil-cooler with an electronically-controlled hydrostatic fan is located separately from radiator for easy access to clean.

High versatility for extra hydraulic equipment.

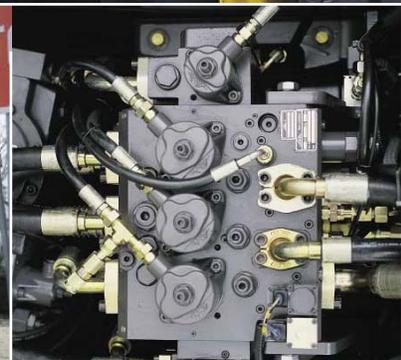
Optional boom float position – featured by Volvo since 1968.

Digging equipment

Booms and dipper arms built to withstand extreme stress and provide long, reliable lifetime.

Excellent digging and lifting capacities.

A wide selection of booms and dipper arms gives you a solution for every need.



Complete control

Technical solutions must always be introduced on human terms. It's the operator who should be in command of the machine, not the opposite. That's why our new excavators are equipped with new advanced technology that always gives the operator complete control. Volvo's mode selector allows the operator to select working mode so that the machine adapts to the current operating techniques and operating conditions. The new MDU – Machine Display Unit – provides the operator with all relevant information about machine status in a simple and logical manner.

Make your own mode pre-setting

The customer mode allows machine performance to be set to the operator's own operating conditions and operating technique. In a very simple way, the hydraulic oil flow and engine speed can be set individually. The new MDU – Machine Display Unit – provides the operator with all relevant information about machine status in a simple and logical manner. In this way, the operator can concentrate on operating and the job. Coolant temperature and fuel level are highly visible at a glance, and it's just as easy to get information on engine speed and the selected mode, as well as engine hours and system voltage. Warning lights and an audible alarm signal alert the operator in case of a malfunction.

Go as slow as you desire

The Power Shift transmission allows the operator to shift between low and high speed range on the move. The transmission has three separate maximum speeds, of which one is a 4 km/h creep speed. However, sometimes road construction and grading jobs require even slower



speeds. That's why the function is now adjustable. The operator can go as slow as desired, depending on the job that needs to be done.

A truly stable performer

The outriggers and the dozer blade give the already rugged and well-balanced machine extra stability. The outriggers' spread is almost four metres. Still, the outriggers are no problem in off-road operations. They're simply folded in close to the machine. The dozer blade makes the machine a truly stable performer.

Sometimes the machine operates in inaccessible areas and rough ground conditions that require high flexibility and all-round capability. With Volvo's excavators, you can choose to run all supports simultaneously or with separate movements in any combination. In some situations, it might be impossible to use the outriggers. That's why it's possible to select drum brakes as an option, ensuring stable digging without play in the axles, even without outriggers.

Electrical / Electronic system

New instrument panel, combined with Machine Display Unit (MDU), enables even faster operating status checks and greater work efficiencies.

New mode selector switch with customer mode setting for the preferred machine performance.

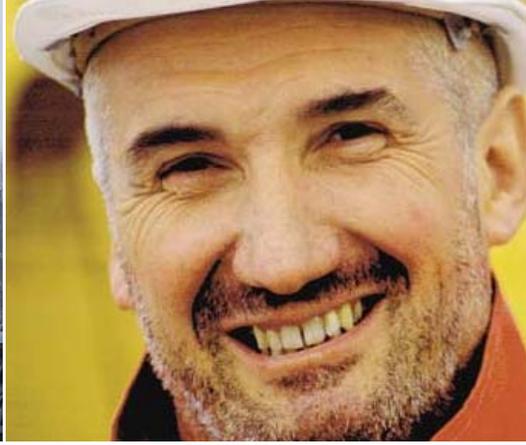
Well-protected and easily accessible distribution box for fuses and relays.

Undercarriage

High travel speed and tractive force with good ground clearance enabling excellent on-road and off-road mobility.

Rugged design of the outriggers and the dozer blade – wide outrigger spread.

Independently or simultaneously operated undercarriage supports.



More compact on the outside, more spacious on the inside

Function is a part of every detail in the new machines, which the new design clearly shows. The EW160B is made compact for easier operation and more efficient work in urban environments and narrow streets. Excellent boom lifting height and short tail radius make it possible to both slew and turn the machine around even in very tight areas. The cab is slightly more square than before, simply because this makes the cab more spacious on the inside. There's lots of room for your feet, as well as a practical lunchbox compartment and ample space for any personal items you may want on long shifts.



A good work environment is not an option

During development of the new machines, we've worked hard to make the cab as operator-friendly as possible. There's good reason for that; a good work environment is not an option when caring for operator comfort and operating pleasure. And only a comfortable operator does a good job.

The cab is equipped with a new ergonomic operator's seat, with multiple adjustment functions for optimal individual comfort. Even the cab's lever consoles have vertical adjustment. The electronic climate control system always ensures a comfortable cab environment. In short, the new machines offer a safe and comfortable workplace to be enjoyed, even during those long shifts.

A cab with a view

Good comfort and high safety require good visibility all around the machine in all weather and operating conditions. Visibility in the new cab has been improved. The strong yet narrow cab pillars give the operator a safe workplace, significant reduction of "blind spots" on both sides and excellent forward visibility on the worksite. Just like before, the front windshields of tinted safety glass are designed without mouldings, giving a clear view in the digging direction without blinding glare from intense sunlight.

Perfect coordination between operator and machine

Even the smallest parts in the machines are designed for perfect coordination between operator and machine, making work effective and comfortable at the same time. The operator should have a comfortable operating environment, and it should be possible to really use all of the machine's functions and features. The machine responds immediately to the operator's commands, and pedals and levers react consequently and distinctly to every movement. Instruments are easy to read and controls are within easy reach, ergonomically and logically placed to make work as operator-friendly and smooth as possible. You, the operator, have full control of both machine and attachment in all jobs, even the toughest applications, making it possible for you to work long, effective shifts without getting tired.

Cab

Ergonomically-designed cab provides greater operator comfort for higher operator efficiency and productivity.

Improved visibility for safer and more efficient operation.

Increased cooling and heating capacity, with Electronic Climate Control (ECC) and 13 vents.

Very low cab noise level.

Supported by gas springs, the upper front pane is very easy to slide up.

High-quality comfortable seat with nine different adjustments.

Superstructure

Compact tail slew radius and low engine hood.

Large side rearview mirror enhancing visibility and safety for both driving and working.



Care – down to the last detail

Volvo wheeled excavators are designed and built using the most advanced systems and technology available in the world today. Nothing has been left to chance. But technology has not been allowed to stand above all. Instead, we've focused on operating safety and care – care of the machine, the environment and, most of all, the operator.

Easiest and safest workday possible

A wide range of ergonomic details and ingenious solutions, along with longitudinal mounting of the engine in the machine, mean easy service and routine maintenance from ground level. For service points higher up, the machine has the market's widest and safest platforms with anti-slip steps. Behind the cab on the middle of the machine there is a spacious platform with lots of room to work. All these features encourage and facilitate the important service work and give the operator the easiest and safest workday possible.

When it comes to safety, Volvo is in a class of its own

When it comes to operator and machine safety, Volvo is in a class of its own. An excavator must be able to handle tough work and withstand high stresses. It's important that traveling is safe, and this is something we've worked hard on for the new generation of excavators. The highly visible hydraulic safety bar in front of the left control console enables the operator to easily enter or leave the

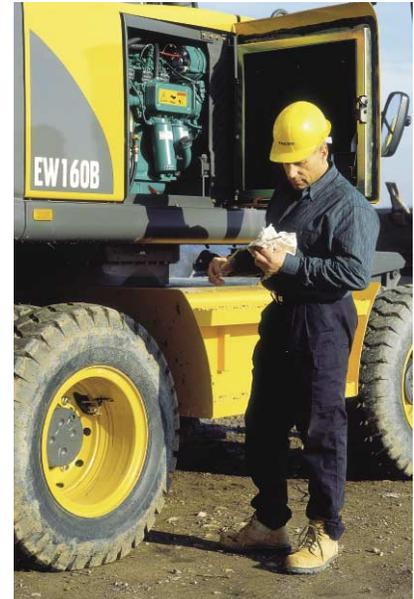
machine without activating any machine functions.

Volvo excavators feature a unique travel lock. By turning a switch, you lock the entire superstructure to the undercarriage and, at the same, all hydraulic functions are blocked. This prevents accidental movement of the digging equipment, swing or the undercarriage's support functions when traveling on a public road. In addition, the operator in a Volvo can lock the oscillating axle simply by using the service brake. It can also be locked manually.

Automatic speed retardation gives you peace of mind

Even when running downhill at full throttle, the safety feature retards the machine speed and prevents it from overspeeding.

This results in less use of the service brake and gives the operator great peace of mind and safety. Should the machine run out of diesel fuel, there's an emergency system that always allows steering and braking. With the installed accumulators, the brakes in the new machines always provide reliable braking.



Serviceability

On-ground maintenance of engine.

Spacious service walkway with self-cleaning anti-slip steps.

Large, easy-to-open doors and hoods with locks.

Centralized and on-ground lubrication for digging equipment and swing bearing.

Centralized hydraulic pressure check points.

Environment and Safety

Low-emission engines, meeting EPA Tier 2 emissions standards.

Low noise hydraulic pumps and hydraulic driven, oil cooler fan.

Optional biodegradable hydraulic oil.

Highly visible hydraulic safety lock with tilting console box.

Safe and easy superstructure alignment to undercarriage for traveling.

Automatic front axle lock on applying the digging brake.

Automatic retardation of downhill speed.

Optional front window safety net, FOPS and FOG.



The EW160B in detail

Engine

The engine is a low-emission, turbocharged, 4-stroke diesel engine with water cooling, direct injection and charged air cooler that meets EPA Tier 2 requirements. The engine has been developed especially for excavator use, providing good fuel economy, low noise levels and a long service life.

Air Filter: 3-stage

Automatic Idling System: Reduces engine speed to idle when the levers and pedals are not activated, resulting in less fuel consumption and low cab noise level.

Engine.....	Volvo D6D EAE2	
Rated power at.....	33.3 r/s	2,000 r/min
Gross SAE J1995	110 kW	148 hp
Net ISO 9249/SAE J1349	103 kW	138 hp
Maximum torque at 1 500 rpm ...	595 N.m	438 lb ft
No. of cylinders	6	
Displacement, total	5.7 l	348 cu.in
Bore	98 mm	3.86"
Stroke	126 mm	4.96"

Electrical system

Contronics provides advanced monitoring of machine function and important diagnostic information. High capacity and well protected electrical system. Centrally located fuse and relay box using clearly arranged printed circuit board, mounted, for easy access behind the cab. A center passage for additional electrical functions is optionally available. A master switch is standard.

Voltage.....	24 V
Battery	2 x 12 V
Battery capacity	140 Ah
Alternator	28 V / 80 A

Cab

The operator's cab has easy access via a wide door opening. The cab is supported on hydraulic dampening mounts to reduce shock and vibration levels. These along with a sound absorbing lining provide low noise levels. The cab has excellent all-round visibility. The front windshield can easily slide up into the ceiling, and the lower front glass can be removed and stored in the door.

Integrated air conditioning and heating system:

The pressurized and filtered cab air is supplied by an automatically controlled fan. The air is distributed via 13 vents.

Ergonomic operator's seat: The adjustable seat and joystick consoles move independently to accommodate the operator. The seat has nine different adjustments and a seat belt to meet any operator's comfort and safety.

Sound Level:	
Sound level in cab according to	
ISO 6396.....	72 LpA dB(A)
External sound level according to	
ISO 6395.....	103 LwA dB(A)
(Directive 2000/14/EC)	

Undercarriage

Drive train: One big variable axial-piston motor on the two-step power shift gearbox gives power to front and rear axles, both with hub reductions.

Framework: All-welded robust torsion box frame.

Wheels: Alternative single and twin wheels available.

Front axle: Robust excavator axle with automatic or operator controlled front axle oscillation lock. Oscillating $\pm 9^\circ$ (with mudguards $\pm 7^\circ$).

Twin wheels	10.00-20 PR16	
Maximum tractive force (net).....	95 kN	21,380 lb
Travel speeds		
on road	35.0 km/h	21.7 mph
off road	8.0 km/h	4.9 mph
creep speed.....	3.7 km/h	2.3 mph
Min. turning radius.....	7.2 m	23'7" ft in

Brakes

Service brakes: servo-hydraulically maneuvered, self-adjusting wet multidiscs in two separate brake circuits.

Parking brake: negative wet disc in gear housing, spring applied and pressure released.

Digging brake: service brake with mechanical lock system.

Security system: The 2-circuit travel brakes are supplied with two accumulators in the event of failure in the service brake system.

Weights

Machine with 5.0 m (16'5") monoblock boom, 2.45 m (8'0") stick, quickfit S6, 530 kg (1,168 lb) / 750 l (0.98 yd³) bucket.

* Machine with 5.1 m (16'9") 2-piece boom.

Total machine weight incl. dozer blade front and outriggers rear.....	17,160 kg	(37,831 lb)
.....*17,500 kg.....		(38,581 lb*)
Total machine weight including front and rear outriggers	17,700 kg	(39,022 lb)
.....*18,300 kg.....		(40,345 lb*)

Service refill capacities

Fuel tank.....	250 l	66 gal
Hydraulic system, total	260 l	69 gal
Hydraulic tank.....	135 l	36 gal
Engine oil	25 l	7 gal
Engine coolant.....	22 l	6 gal
Transmission	2.9 l	0.8 gal
Axle housing		
Front axle	8.5 l	2.2 gal
Rear axle	11.0 l	2.9 gal
Final drive		
Wet disc type.....	2.0 l	0.5 gal
Drum type	1.1 l	0.3 gal

Hydraulic system

Closed-center load sensing hydraulic system with pressure compensated valves. Load independence of movements. Flow sharing feature, combined with a high flow electronically-controlled pump (power regulation).

The system gives superior maneuverability and fast movements, for optimal working result and economy.

The following working modes are included in the system:

Parking mode (P):

Parking position for optimal safety.

Travel mode (T):

Engine speed is controlled by travel pedal stroke for low fuel consumption and noise. Work equipment is not able to move at this mode for optimal safety.

Working mode (W):

Full working flow with adjustable engine rpm for normal working and best speed utilization.

Customer mode (C):

Operator can set proper oil flow in accordance with job conditions.

Power Boost:

All digging and lifting forces are increased.

Hydraulic pumps:

Main pump

Type	low noise axial piston pump	
Maximum flow	240 l/min	63 gpm

Brake + steering pump

Type	low noise gear pump	
Maximum flow	32 l/min	8.5 gpm

Hydraulic oil cooling fan + servo pump

Type	gear pump	
Maximum flow	47 l/min	12.4 gpm

Max. pressure

Implements	32/36 MPa	4,640/5,220 psi
Travel system	36 MPa	5,220 psi
Pilot system	3.5 MPa	510 psi

Swing system

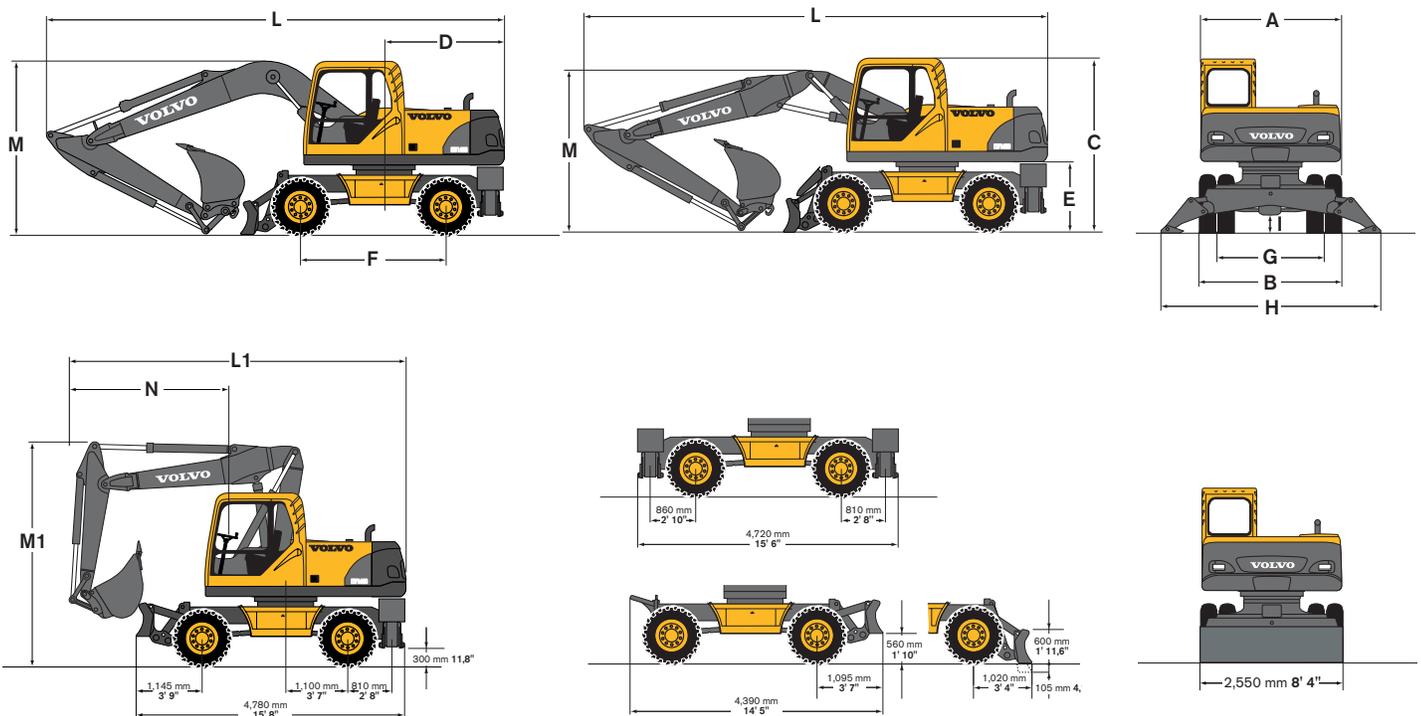
The superstructure is swung by the means of an axial piston motor with a planetary reduction gear.

Automatic swing holding brake and anti-rebound valve are standard.

Maximum swing speed.....9.5 rpm

Specifications

Dimensions

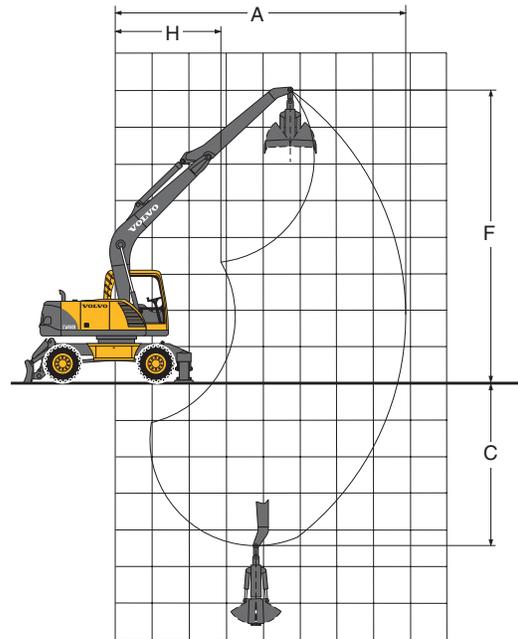
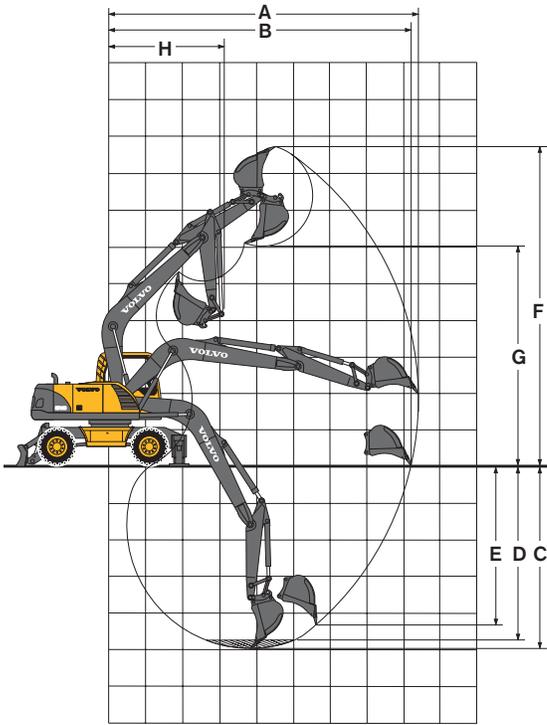


* Travel position with 2.45 m (8'0") stick

Description	Unit	5.0 m (16'5") Monoblock Boom					5.1 m (16'9") 2-Piece Boom				
		2.0 m	2.45 m	2.6 m	3.1 m	3.0 m*	2.0 m	2.45 m	2.6 m	3.1 m	3.0 m*
A. Overall width of superstructure	mm, ft-in	2,500 8'2"					2,500 8'2"				
B. Overall width	mm, ft-in	2,540 8'4"					2,540 8'4"				
C. Overall height of cab	mm, ft-in	3,110 10'2"					3,110 10'2"				
D. Tail swing radius	mm, ft-in	2,150 7'1"					2,150 7'1"				
E. Counterweight clearance	mm, ft-in	1,270 4'2"					1,270 4'2"				
F. Wheel base	mm, ft-in	2,600 8'6"					2,600 8'6"				
G. Tread	mm, ft-in	1,915 6'3"					1,915 6'3"				
H. Outrigger width, down (front or rear)	mm, ft-in	3,920 12'10"					3,920 12'10"				
I. Minimum ground clearance	mm, ft-in	325 1'1"					325 1'1"				
Stick length:	m	2.0 m	2.45 m	2.6 m	3.1 m	3.0 m*	2.0 m	2.45 m	2.6 m	3.1 m	3.0 m*
	ft-in	6'7"	8'0"	8'6"	10'2"	9'8"	6'7"	8'0"	8'6"	10'2"	9'8"
L. Overall length	mm	8,180	8,200	8,190	8,000	8205	8,290	8,310	8,290	8,070	8,310
	ft-in	26'10"	26'11"	26'10"	26'3"	26'11"	27'2"	27'3"	27'2"	26'6"	27'3"
M. Overall height of boom	mm	2,990	3,160	3,260	3,620	3,175	2,890	2,940	3,050	3,450	2,945
	ft-in	9'10"	10'4"	10'8"	11'11"	10'5"	9'6"	9'8"	10'	11'4"	9'8"
L1. Overall length	mm	-	-	-	-	-	6,110	6,170	6,170	7,420	6,530
	ft-in	-	-	-	-	-	20'1"	20'3"	20'3"	24'4"	21'5"
M1. Overall height of boom	mm	-	-	-	-	-	4,000	4,000	4,000	4,000	4000
	ft-in	-	-	-	-	-	13'1"	13'1"	13'1"	13'1"	13'1"
N. Front overhang	mm	-	-	-	-	-	2,920	2,980	2,970	4,230	3,450
	ft-in	-	-	-	-	-	9'7"	9'9"	9'9"	13'11"	11'4"

*dipper arm for grab

Working Ranges & Digging Forces



Monoblock Boom	m, ft-in	5.0	16'5"	5.0	16'5"	5.0	16'5"	5.0	16'5"	5.0	16'5"
Stick	m, ft-in	2.0	6'7"	2.45	8'0"	2.6	8'6"	3.1	10'2"	3.0*	9'8"
A. Max. digging reach	m, ft-in	8.5	27'11"	9.0	29'6"	9.1	29'10"	9.6	31'6"	8.1	26'7"
B. Max. digging reach at ground level	m, ft-in	8.3	27'3"	8.8	28'10"	8.9	29'2"	9.4	30'10"	–	
C. Max. digging depth	m, ft-in	5.1	16'9"	5.5	18'1"	5.6	18'4"	6.2	20'4"	4.6	15'1"
D. Max. digging depth (2,440 mm, 8' level)	m, ft-in	4.8	15'9"	5.3	17'5"	5.4	17'9"	6.0	19'8"	–	
E. Max. vertical wall digging depth	m, ft-in	4.3	14'1"	4.6	15'1"	4.7	15'5"	5.1	16'9"	–	
F. Max. cutting height	m, ft-in	8.8	28'10"	9.0	29'6"	9.1	29'10"	9.4	30'10"	8.1	26'7"
G. Max. dumping height	m, ft-in	6.0	19'8"	6.2	20'4"	6.3	20'8"	6.6	21'8"	–	
H. Min. front swing radius	m, ft-in	3.1	10'2"	3.1	10'2"	3.1	10'2"	3.1	10'2"	2.9	9'6"

* Stick for grab

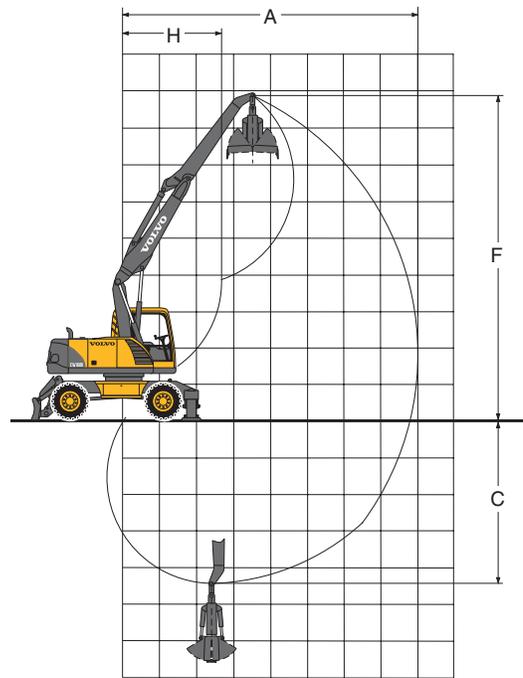
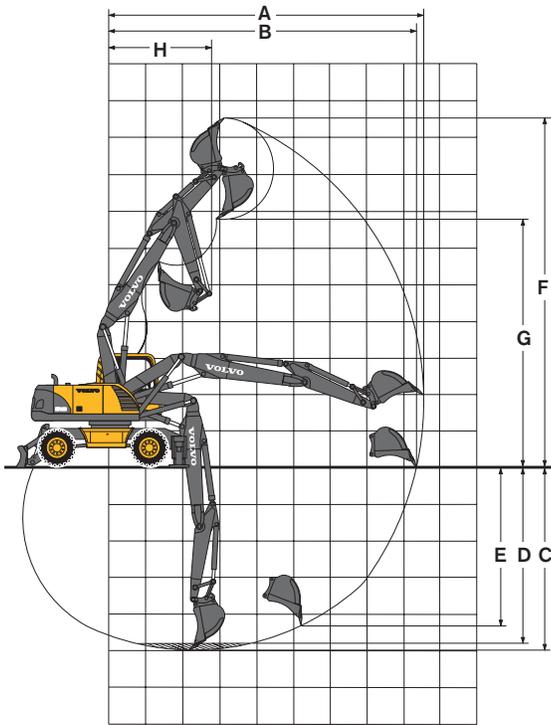
Digging Forces with direct fit bucket:										
Bucket radius	mm, in	1,260	49,6"	1,260	49,6"	1,260	49,6"	1,260	49,6"	–
Breakout force (SAE/ISO)	kN	98.5 / 111.5		98.5 / 111.5		98.5 / 111.5		98.5 / 111.5		–
	lb	22,144 / 25,066		22,144 / 25,066		22,144 / 25,066		22,144 / 25,066		–
Tearout force (SAE/ISO)	kN	97.3 / 98.2		85.2 / 85.7		81.7 / 82.2		72.0 / 72.3		–
	lb	21,874 / 22,076		19,154 / 19,266		18,367 / 18,479		16,186 / 16,254		–
Rotation angle, bucket	deg	185		185		185		185		–

Maximum permitted sizes for quick fit buckets:										
GP-bucket (1.5 t/m ³ 2,530 lb/yd ³)	l, yd ³	900	1.18	825	1.08	775	1.01	700	0.92	–
GP-bucket (1.8 t/m ³ 3,030 lb/yd ³)	l, yd ³	775	1.01	725	0.95	675	0.88	625	0.82	–

Maximum permitted sizes for direct fit buckets:										
GP-bucket (1.5 t/m ³ 2,530 lb/yd ³)	l, yd ³	925	1.21	885	1.14	825	1.08	750	0.98	–
GP-bucket (1.8 t/m ³ 3,030 lb/yd ³)	l, yd ³	825	1.08	775	1.01	725	0.95	650	0.85	–

Note: 1. Bucket size based on SAE-J296, heaped material with a 1:1 angle of repose.
2. "Max permitted sizes" are for reference only and are not necessarily available from the factory.

Working Ranges & Digging Forces



2-Piece Boom	m, ft-in	5.1	16'9"	5.1	16'9"	5.1	16'9"	5.1	16'9"	5.1	16'9"
Stick	m, ft-in	2.0	6'7"	2.45	8'0"	2.6	8'6"	3.1	10'2"	3.0*	9'8"
A. Max. digging reach	m, ft-in	8.7	28'7"	9.1	29'10"	9.2	30'2"	9.7	31'10"	8.2	26'11"
B. Max. digging reach at ground level	m, ft-in	8.4	27'7"	8.9	29'2"	9.0	29'6"	9.5	31'2"	–	–
C. Max. digging depth	m, ft-in	5.2	17'1"	5.7	18'8"	5.8	19'0"	6.3	20'8"	4.6	15'1"
D. Max. digging depth (2,440 mm, 8' level)	m, ft-in	4.9	16'1"	5.3	17'5"	5.5	18'1"	6.0	19'8"	–	–
E. Max. vertical wall digging depth	m, ft-in	4.3	14'1"	4.8	15'9"	4.9	16'1"	5.4	17'9"	–	–
F. Max. cutting height	m, ft-in	9.4	30'10"	9.7	31'10"	9.8	32'2"	10.2	33'6"	9.0	29'6"
G. Max. dumping height	m, ft-in	6.8	22'4"	7.2	23'7"	7.3	23'11"	7.7	25'3"	–	–
H. Min. front swing radius	m, ft-in	2.6	8'6"	2.8	9'2"	2.8	9'2"	2.9	9'6"	2.7	8'10"

* Stick for grab

Digging Forces with direct fit bucket:										
Bucket radius	mm, in	1,260	49,6"	1,260	49,6"	1,260	49,6"	1,260	49,6"	–
Breakout force (SAE/ISO)	kN	98.5/ 111.5	98.5/ 111.5	98.5/ 111.5	98.5/ 111.5	98.5/ 111.5	98.5/ 111.5	–	–	–
	lb	22,144 / 25,066	22,144 / 25,066	22,144 / 25,066	22,144 / 25,066	22,144 / 25,066	22,144 / 25,066	–	–	–
Tearout force (SAE/ISO)	kN	97.3 / 98.2	85.2 / 85.7	81.7 / 82.2	72 / 72.3	–	–	–	–	–
	lb	21,874 / 22,076	19,154 / 19,266	18,367 / 18,479	16,186 / 16,254	–	–	–	–	–
Rotation angle, bucket	deg	185	185	185	185	–	–	–	–	–

Maximum permitted sizes for quick fit buckets:										
GP-bucket (1.5 t/m ³ 2,530 lb/yd ³)	l, yd ³	825	1.08	750	0.98	725	0.95	650	0.85	–
GP-bucket (1.8 t/m ³ 3,030 lb/yd ³)	l, yd ³	725	0.95	675	0.88	650	0.85	575	0.75	–

Maximum permitted sizes for direct fit buckets:										
GP-bucket (1.5 t/m ³ 2,530 lb/yd ³)	l, yd ³	875	1.14	800	1.05	775	1.01	700	0.92	–
GP-bucket (1.8 t/m ³ 3,030 lb/yd ³)	l, yd ³	775	1.01	700	0.92	675	0.88	600	0.79	–

Note: 1. Bucket size based on SAE-J296, heaped material with a 1:1 angle of repose.
2. *Max permitted sizes* are for reference only and are not necessarily available from the factory.

Lifting Capacity

At the stick end, without bucket. Unit: 1,000 kg

For lifting capacity including bucket, simply subtract actual weight of bucket from the following values.

 Across under-carriage  Along under-carriage	Lifting hook related to ground level	Reach from machine centre												u = support up d = support down								
		1.5 m, (5')		3.0 m, (10')		4.5 m, (15')		6.0 m, (20')		7.5 m, (25')		Max. reach										
		u	d	u	d	u	d	u	d	u	d	u	d	u	d	u	d	Max. m				
Monoblock boom 5.0 m, (16'5") Stick 2.0 m, (6'7") Front dozer blade Rear outriggers	6.0 m																	2.8	3.8*	3.8*	3.8*	5.7
	20'																	6,320	8,620	8,620	8,620	18.33
	4.5 m																	2.1	3.6*	3.5	3.6*	6.5
	15'																	4,830	8,140	7,900	8,140	21.36
	3.0 m																	1.9	3.2*	3.1	3.7*	7.0
Monoblock boom 5.0 m, (16'5") Stick 2.45 m, (8'0") Front dozer blade Rear outriggers	6.0 m																	2.4	3.0*	3.0*	3.0*	6.2
	20'																	5,460	6,790	6,790	6,790	20.08
	4.5 m																	1.9	2.9*	2.9*	2.9*	7.0
	15'																	4,300	6,440	6,440	6,440	22.87
	3.0 m																	1.7	2.9*	2.8	2.9*	7.4
Monoblock boom 5.0 m, (16'5") Stick 2.6 m, (8'6") Front dozer blade Rear outriggers	6.0 m																	2.3	2.8*	2.8*	2.8*	6.4
	20'																	5,180	6,270	6,270	6,270	20.65
	4.5 m																	1.8	2.7*	2.7*	2.7*	7.2
	15'																	4,110	5,960	5,960	5,960	23.37
	3.0 m																	1.6	2.7*	2.7*	2.7*	7.6
Monoblock boom 5.0 m, (16'5") Stick 3.1 m, (10'2") Front dozer blade Rear outriggers	6.0 m																	2.5*	2.5*	2.5*	2.5*	5.7
	20'																	5,690	5,690	5,690	5,690	18.32
	4.5 m																	2.0	2.2*	2.2*	2.2*	6.9
	15'																	4,480	5,000	5,000	5,000	22.54
	3.0 m																	1.6	2.1*	2.1*	2.1*	7.7
Monoblock boom 5.0 m, (16'5") Stick 2.45 m, (8'0") Front and rear outriggers	6.0 m																	2.4	3.0*	3.0*	3.0*	6.2
	20'																	5,550	6,790	6,790	6,790	20.08
	4.5 m																	1.9	2.9*	2.9*	2.9*	7.0
	15'																	4,380	6,440	6,440	6,440	22.87
	3.0 m																	1.7	2.9*	2.8	2.9*	7.4

- Notes:
1. Working pressure with Power Boost = 36 MPa, 5,220 psi.
 2. The above values are in compliance with ISO standard 10 567. They do not exceed 87 % of hydraulic lifting capacity or 75 % of tipping load, with the machine on firm, level ground.
 3. Load capacities marked with an asterisk (*) are limited by machine's hydraulic lifting capacity rather than tipping load.

Lifting Capacity

At the stick end, without bucket. Unit: 1,000 kg

For lifting capacity including bucket, simply subtract actual weight of bucket from the following values.

 Across under-carriage  Along under-carriage	Lifting hook related to ground level	Reach from machine centre												u = support up d = support down									
		1.5 m, (5')		3.0 m, (10')		4.5 m, (15')		6.0 m, (20')		7.5 m, (25')		Max. reach											
		u	d	u	d	u	d	u	d	u	d	u	d	u	d	u	d	Max. m					
Monoblock boom 5.0 m, (16'5") Stick 2.6 m, (8'6") Front and rear outriggers	6.0 m 20'																	2.3	2.8*	2.8*	2.8*	6.4	
	4.5 m 15'																		5.270	6.270	6.270	6.270	20.65
	3.0 m 10'																		1.8	2.7*	2.7*	2.7*	7.2
	1.5 m 5'																		4.190	5.960	5.960	5.960	23.37
	0.0 m 0'																		1.6	2.7*	2.7*	2.7*	7.6
	-1.5 m -5'	5.8*	5.8*	5.8*	5.8*														3.690	6.010	6.010	6.010	24.78
Monoblock boom 5.0 m, (16'5") Stick 3.1 m, (10'2") Front and rear outriggers	7.5 m 25'																		2.5*	2.5*	2.5*	2.5*	5.7
	6.0 m 20'																		5.690	5.690	5.690	5.690	18.32
	4.5 m 15'																		2.0	2.2*	2.2*	2.2*	6.9
	3.0 m 10'																		4.570	5.000	5.000	5.000	22.54
	1.5 m 5'																		1.6	2.1*	2.1*	2.1*	7.7
	0.0 m 0'																		3.710	4.780	4.780	4.780	25.05
Monoblock boom 5.0 m, (16'5") Stick for grab 3.0 m, (10') Front and rear outriggers	7.5 m 25'																		3.0	3.0	3.0	3.0	5.6
	6.0 m 20'																		6.880	6.880	6.880	6.880	17.91
	4.5 m 15'																		2.3	2.7	2.7	2.7	6.8
	3.0 m 10'																		5.390	6.020	6.020	6.020	22.21
	1.5 m 5'																		2.0	2.6	2.6	2.6	7.6
	0.0 m 0'																		4.2	5.720	5.720	5.720	24.76
2-piece boom 5.1 m, (16'9") Stick 2.0 m, (6'7") Front dozer blade rear outrigger	7.5 m 25'																		4.3	5.0*	5.0*	5.0*	4.3
	6.0 m 20'																		10.280	11.370	11.370	11.370	13.53
	4.5 m 15'																		2.6	4.2*	4.2*	4.2*	5.8
	3.0 m 10'																		5.980	9.530	9.530	9.530	18.90
	1.5 m 5'																		2.0	3.5	3.4	4.0*	6.7
	0.0 m 0'																		4.620	7.950	7.610	8.950	21.85
2-piece boom 5.1 m, (16'9") Stick 2.45 m, (8'0") Front dozer blade rear outrigger	7.5 m 25'																		3.4	3.9*	3.9*	3.9*	5.0
	6.0 m 20'																		9.790	8.820	8.820	8.820	15.91
	4.5 m 15'																		2.3	3.3*	3.3*	3.3*	6.4
	3.0 m 10'																		5.110	7.510	7.510	7.510	20.65
	1.5 m 5'																		1.1	3.2	3.0	3.2*	7.2
	0.0 m 0'																		4.110	7.110	6.820	7.130	23.37

Notes: 1. Working pressure with Power Boost = 36 MPa, 5,220 psi.
 2. The above values are in compliance with ISO standard 10 567. They do not exceed 87 % of hydraulic lifting capacity or 75 % of tipping load, with the machine on firm, level ground.
 3. Load capacities marked with an asterisk (*) are limited by machine's hydraulic lifting capacity rather than tipping load.

STANDARD EQUIPMENT

Engine

Turbocharged, 6-cylinder Volvo diesel engine with water cooling, direct injection and charged air cooler that meets EPA Tier 2 emission requirements
Air intake heater
Electric engine shut-off
Fuel filter and water separator
Aluminium core radiator
Protective net for radiator and hydraulic cooler

Electric/Electronic control system

Contronics – computerized monitoring and diagnostic system
Master switch
Automatic idling system
One-touch power boost
Adjustable monitor
Engine restart prevention circuit
Safety stop/start function
Travel alarm
High-capacity halogen lamps
– Frame-mounted 2
– Cab-mounted 2
– Boom-mounted 2
Alternator, 80 A
Batteries, 2 x 12 V/140 Ah
Start motor, 24 V/4.8 kW

Undercarriage

Twin tires 10.00–20 PR16
2-speed power transmission plus creep speed
Travel speed 35 km/h (21.7 mph)

Oscillating front axle $\pm 9^\circ$
2-circuit travel brakes
Maintenance-free propeller shafts
Stone protection rings
Front dozer blade and rear outriggers
Toolbox, left-hand side

Superstructure

Counterweight, 3,250 kg (7,165 lb)
Service walkway with anti-slip grating
Centralized lubricating point for swing bearing
Switch to align superstructure to undercarriage

Cab and interior

Electronic climate control (ECC)
Hydraulic dampening cab mounts
Adjustable operator seat and joystick control console
Adjustable steering wheel column
Flexible antenna
Hydraulic safety lock lever
Control joystick with five switches each
Cab, all-weather sound suppressed, includes:
– Fabric seat, with heater and air suspension
– Ashtray
– Cup holder
– Lighter
– Door locks
– Tinted safety glass
– Floor mat
– Horn
– Large storage area

– Pull-up type front window
– Removable lower windshield
– Seat belt
– Front rain shield
– Windshield wiper with intermittent feature
– Stereo-radio with cassette
Sun blinds, front, rear and roof
Anti-vandalism kit assembly preparation
Master ignition key

Hydraulic system

Load sensing hydraulic system
Hammer/shear piping
Separate hammer return oil line
Quickcoupler piping
Cylinder cushioning
Cylinder contamination seals
Return filter of full flow type 2000 h exchange interval
Pressure relief system (servo accumulator)
Thermostatically controlled cooling fan
Hydraulic oil, ISO VG46
Pump flow control for hammer
Two step pressure settings for attachments
Shut-off cocks for hammer/shear and return line piping

Digging equipment

Monoblock, 5.0 m (16'5")
Stick, 2.45 m (8'0")
Attachment points for extra hydraulics
Centralized lubrication point

OPTIONAL EQUIPMENT

(Standard in certain markets)

Engine

Diesel-powered cab and engine heater with digital timer
Electric engine heater, 110V
Fuel filler pump: 50l/min (13 gpm) with automatic shut-off

Electric/Electronic control system

Rotating warning beacon
Electrical floor switch for hammer
Extra work lights:
– Service walkway one and counterweight one

Undercarriage

Single tire 18R-19.5
Mudguards, front/rear
Toolbox, right-hand side
Rear dozer blade and front outriggers
Four outriggers
Rear axle with drumbrake (playfree)

Cab and interior

Fabric seat
Heater and air-conditioner, manual
Falling object guard (FOG)
Cab-mounted falling object protective structure (FOPS)
Safety net for front window
Lower wiper
Anti-vandalism kit
Anti-theft protection
Cruise control in max. speed

Hydraulic system

Hose rupture valve for stick
Float position on boom
Hydraulic oil, ISO VG 32
Hydraulic oil, ISO VG 68
Hydraulic oil, biodegradable 46
Complete hydraulics for slope bucket/rotator
Complete hydraulics for 2-piece boom
Pilot pattern change

Hydraulic quick fit

Hydraulic quickfit, S6 (pin grab type)
Hydraulic quickfit, S1

Digging equipment

Booms
2-piece boom, 5.1 m (16'9")
Monoblock offset boom, 4.7 m (15'5")
2-piece offset boom, 5.2 m (17'1")

Sticks
2.0 m (6'7")
2.6 m (8'6")
3.1 m (10'2")
3.0 m (9'8") material handling stick

Attachments

Ripper, S6/S1
Hammer holder, S6/S1
Grab holder, S6/S1

Service

Tool kit



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.**



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