

16.4 -18.0 tons, 115 kW (154 hp)

**VOLVO EXCAVATOR**

# EW160C



**MORE CARE. BUILT IN.**



# VOLVO – A PARTNER TO TRUST.

Trust means knowing your equipment will perform no matter the job or the conditions. Volvo EW160C wheeled excavators earn that trust — every day. With the multi-task credentials of a tool-carrier and the pedigree of a thoroughbred digging machine, the EW160C does more than work. It commands.

Multi-function. Highly mobile. Well-balanced. Fuel efficient. Comfortable. Think of the Volvo EW160C as your one-machine fleet. It's time to roll.

## **Volvo: your global, local partner**

Since 1927, Volvo has earned trust for providing solutions with true value. Built on core values of quality, safety and environmental care, Volvo equipment is a leader in construction and transportation. Its extensive lineup of construction machines is complemented by Volvo buses, trucks, aero engines and marine power systems. As the world's largest producer of 9- to 18-liter diesel engines, Volvo delivers class-leading fuel efficiency. That heritage is born anew in the C-Series family of excavators. One shift in the cab of a Volvo excavator, and you'll understand why so many count on Volvo as their trusted partner.

## **A task force from one machine**

Other machines may try to claim the crown, but Volvo C-Series wheeled excavators are arguably the most capable construction machines at work anywhere. So what is an excavator doing making such claims? Watch and see. The EW160C is one machine, but it performs the work of a task force. Digging trenches. Hammering impacted rock. Setting up trench boxes. Grading.

Craning pipes. Boring holes for utility poles. Sawing concrete bridge decks. Pulling storm debris from under bridges.

All that in a well-balanced package that moves between jobsites at up to 22 mph (35 kph). The EW160C won't tear up road surfaces or parking lots like crawler machines. And its low ground pressure makes it especially effective in off-road or soft-ground conditions. Count on it.

## **Cab puts the operator in command**

The roomier Volvo Care Cab has excellent visibility, high-volume climate control, a new openable roof hatch and repositionable steering column. The responsive controls allow the operator to infinitely adjust hydraulic flows and pressures for attachments without leaving the seat. Fluid levels can be monitored right from the cab.

With such mobility, ease of use, comfort and adaptability, the EW160C truly has the power of more. More tools. More tasks. More control. More work done — on less fuel. At the end of the day, it adds up to the one thing all contractors want — more profit.





• High torque and smooth ride redefine mobility.



• Volvo Care Cab has excellent visibility.



• All-around excavator/tool-carrier performance.



• Volvo is a sure sign of innovation and quality.



• Extra-duty components deliver reliable, long life.



• Efficient, intelligent Volvo V-ACT engine.

- Rugged, mobile tool-carrier efficiently handles the work of several machines.
- Adjust attachment hydraulic flow and pressure right from the cab.
- Cab comfort, clear visibility enhance productivity.
- V-ACT engine has high torque at low revs and superior fuel efficiency.

# A CAB THIS GOOD COULD ONLY COME FROM VOLVO.

Why is the new Volvo C-Series Care Cab so roomy, comfortable and secure? Simple. Volvo knows the excavator operator is that important.

We made the EW160C cab roomier, expanded the cab glass, added a transparent, openable roof hatch option and made everything from the seat to the steering column easy to customize for just the right fit. We make it easy to do more — in comfort.

## **No better place to work**

One shift at the controls of the EW160C and an operator will never want to run anything but a Volvo. Operator input is a big part of Volvo cab design, so it's no surprise the EW160C Care Cab is loaded with productivity-enhancing features. It's not only good for the operator, it's a competitive edge for the owner. Productivity and profit start in the cab.

It's easier than ever to be productive — right from the operator's seat. Daily checks of engine oil, coolant, hydraulic oil and filters can be done via the easy-to-read electronic control monitor. No more climbing on the excavator for daily checks. The optional Volvo CareTrack system works with the machine's diagnostics to track geographic location, usage, fuel consumption, service reminders and more. Using GPS technology, CareTrack makes the information available remotely via computer. CareTrack also offers theft protection by allowing you to limit geographic areas or hours of the day the machine can be operated.

Switching attachments is fast and convenient. The EW160C works with three types of quickcouplers (S-1, S-6 or universal) and can be outfitted with the widest range of attachments.

The operator can adjust hydraulic flow and pressure settings from the cab — a major time saver when doing tool-carrier work. Volvo hydraulics provide smooth, comfortable control from the joysticks with low effort. And the ride is smooth, whether roading at full speed or operating in creep mode.

## **Visibly superior**

Volvo is already known for industry-leading cab visibility. Now we've made it even better with more cab glass and a transparent roof hatch that opens via a gas strut. Visibility has been dramatically improved by moving the windshield-wiper motor to the left. The steering column pivots back and forth, so it won't obstruct view to the front. With the two-piece boom retracted, visibility out the right side is clear and unobstructed for travel.

An optional rearview camera is integrated into the in-cab monitor for extra safety. Digging, lifting or craning, the operator has the cleanest lines of sight, for added confidence and better productivity.

We've relocated the cooling system fan, so the pressurized cab is even quieter. A new viscous-mount suspension cushions the platform from vibration, so long shifts won't mean big fatigue.



• Rear visibility is enhanced by flat superstructure.

- Deluxe air-suspension seat with adjustable height, tilt, recline and forward-back settings to easily suit any size operator.
- Joystick consoles adjust up, down, forward and back.
- Forward-reverse switch on right joystick provides superior control, lessens leg fatigue compared to F/R pedal.
- Wider cab with more leg room and foot space.
- Electronic control console allows daily fluid and filter checks right from the cab.
- Generous cab glass enhances industry-leading visibility.
- Transparent, openable roof hatch offers clean sight lines for overhead operations.
- Retractable steering column pivots toward operator for clean field of view.
- Removable lower front window stows easily in cab door pocket.
- Optional rear camera provides operator more confidence.
- New viscous-mount suspension dampens shock and vibration.
- 14-vent climate-control keeps cab air comfortable in any weather.



• Steering column pivots for visibility and comfort.



• Machine controls are all within easy reach.



• Clear overhead views through openable roof.



# FLEET PRODUCTION – FROM ONE MACHINE.

Every contractor looks for a competitive edge, which is why Volvo built so many into its line of wheeled excavators. The EW160C is a superior tool-carrier that can perform the work of several machines — at lower cost and higher profit.

With so many options, from buckets and hammers to grapples and clamps, the EW160C is more than a machine. It's an all-around force.

## **One machine, many solutions**

The Volvo EW160C is a true tool commander, engineered with the power and stability to handle the work of several machines. With a multitude of available attachments and the ability to customize hydraulic flows and pressures right from the cab, the EW160C has the power and quality of a whole fleet — built in.

The stout, solid undercarriage anchors the machine for digging, lifting and precision operations. With robust, wide-spread outriggers and parallel blade, the EW160C can lift, load, grade and more. And it won't tear up roadway pavement or mar other sensitive surfaces. With low ground pressure, it's an outstanding tool for off-road operations.

Versatility starts with the EW160C's boom. The available two-piece boom delivers incredible agility, allowing the excavator to work in tight spaces or perform parallel digging. Geometry of the two-piece boom makes the EW160C perfectly suited for a huge range of tasks. The standard monoboam delivers solid performance for digging and lifting applications.

## **Work tools for any task**

Tool-carrier performance of the EW160C is limited only by the needs of the customer. Add a quickcoupler and a tilting, rotating attachment for a truly smart machine. The EW160C works with S-1, S-6 and universal quickcouplers, so there's virtually no limit on available attachments.

Smooth, load-sensing hydraulics deliver the control for asphalt cutting or grading around obstructions. Superior hydraulics can power hammers, grapples, brush cutters and many other attachments. Easily arm the EW160C with ditching or trenching buckets, rippers, compactors, augers, mower, pulverizers — and more.

All of this performance is made more effective by the EW160C's smooth travel at speeds up to 22 mph (35 kph). So whether the work is across the jobsite or across town, the EW160C takes the command where you need it most.





• Precise control for working in tight spaces.



• Robust hydraulics, stability for off-road operation.



• Reach and power for digging and loading.



• Optional two-piece boom adds versatility.



• 3 possible couplers for wide attachment range.

- With a range of attachments, do more with one machine.
- Operate off road or on pavement without damaging sensitive surfaces.
- Quickcoupler makes swapping attachments quick and easy.
- Stabilizer blade and outriggers enhance stability for digging or lifting.
- Comfortable ride whether at full speed or in creep mode.

# VOLVO POWER IS THE HEART OF PERFORMANCE.

To truly understand the advantage of operating a machine with a Volvo power system, you have to experience it. One shift at the controls of the EW160C, and you'll know it. It shows in power out of the trench. It shows in the fine control of placing pipes or pallets of material. It shows in high torque at low RPMs. It shows in world-class fuel economy. Most importantly, it shows in productivity — and profit.



• Tested, and proven, on jobsites all over the world.

## Superior power — with purpose

As the world's leading manufacturer of mid-size diesel engines, Volvo knows power. The EW160C is a mid-size excavator with a robust six-cylinder engine — a perfect balance of power and size. It's no wonder the EW160C is so good at so many tasks.

What gives Volvo power a competitive edge on the jobsite? Superior components are perfectly integrated with Volvo technology to get the most from every stroke, cycle and shift.

Electronic engine controls optimize hydraulic flow based on engine speed and the demands of the job. Operators have engine modes to match the widest

range of tasks. Volvo delivers total power control, so you're assured of maximum output at any speed. The EW160C delivers faster operation at lower revs.

The advanced Volvo V-ACT engine meets Tier 3/Stage IIIA emission requirements, so it's easy on the environment. You'll squeeze more from every drop of fuel with V-ACT, which uses new fuel-injection and air-management systems for clean combustion and low emissions.

## Robust, harmonized hydraulics

The quieter main pump delivers robust oil flow to hydraulic, travel and swing functions for smooth and responsive performance — especially on combined tool-carrier operations. A higher torque

swing motor means faster cycle times when working on slopes or placing loads.

Based on the proven Volvo wheel loader engine and specifically designed for the demands of excavation, the EW160C has more components and parts found in other Volvo equipment. That means better parts availability, lower operating costs and better uptime.

Volvo takes the power even further with VCADS Pro and MATRIS — computerized tools to analyze and manage fuel usage, machine function and utilization. Volvo CareTrack brings the power of satellites to track and manage one machine — or an entire fleet.

## VOLVO'S ENGINE LEADERSHIP SPANS LAND, SEA, SKY AND SPACE

As the world's largest manufacturer of 9- to 18-liter diesel engines, Volvo has unmatched expertise designing power systems that move the world. Volvo engines for Volvo Construction Equipment,

Volvo Aero, Volvo Buses, Volvo Penta and Volvo Trucks define productivity and fuel economy. Our performance has been honed on land, over the sea, across the sky and into space. Leading research and

development keeps all Volvo Group products at the forefront of productivity. So when we say Volvo engines are tested — and proven — you can believe it. Trust in it. It's the real advantage of Volvo Power.





• Custom performance with easy mode control.



• Hydraulics optimize flow based on job demands.



• Trust Volvo for power, endurance and results.



• Engines are built for multi-task performance.

**High-torque V-ACT engine**

- Precision, high-pressure fuel injection system.
- Larger capacity turbocharger.
- Innovative exhaust recirculation.
- High torque at low RPMs.
- Industry-leading fuel economy.

**Electronic engine control**

- Real-time sensors feed data to engine management system.
- System optimizes combustion based on sensor feedback.
- Maximum available power directed to hydraulics.

**Hydraulics with harmony**

- Maximum available hydraulic power matched to engine speed.
- Volvo hydraulics ensure the flow is directed to where it's needed.

**Machine management**

- Diagnostics, machine history available from MATRIS and VCADS Pro systems.

# A CLOSE-UP VIEW OF ROLLING COMMAND: INNOVATION NEVER LOOKED SO GOOD.

## MORE SAFETY

- **Safety** is a **core value** at Volvo, and it shows in our machines.
- **Volvo Care Cab with** integrated operator protective structure and strong cab pillars.
- **Optional rear camera** provides the operator with more confidence.
- Superstructure above the engine is flat for **excellent rear visibility**.
- **Punched-plate anti-slip steps and walkways** for sure grip.
- **Longer cabin footstep** resists damage and is easily replaced.
- **Low noise levels** in the cab and outside the machine.
- **In-cab switch shuts down engine in an emergency**.
- **Clear, openable roof hatch** for clear views of overhead obstructions.
- **Indicator on quickcoupler** shows if attachments are locked in place.
- **Fuel-efficient, low-emissions engine** is easy on the environment.
- **Lead-free exterior paint**.
- **Volvo excavators are 95% recyclable**.

## MORE SOLUTIONS

- **Auxiliary hydraulics** power a range of attachments:
  - Grapples
  - Slope bucket
  - Tilting & rotating attachment
  - Brush cutters
  - Compactors
  - Augers
  - Pile drivers
  - Pulverizers
  - Hammers
- **One-touch customization** of attachment hydraulic pressures and flows, activated from joystick button in the cab.
- **Full hammer/shear control** from the cab, including flow control, pressure adjustment and ability to store and recall unlimited attachment presets from keypad in the cab.
- **Volvo quickcoupler**.
- Available **tilting and rotating attachment** provides 360-degree attachment rotation, extreme agility.
- Available **two-piece boom** enhances work on cramped sites, aids visibility when roading.
- **Optional digging brake engages automatically** when digging, lessening fatigue and saving time.





## MORE CAB COMFORT

- **Roomier Volvo Care Cab** with customizable controls and backlit switches.
- **More cab glass** delivers enhanced best-in-class visibility.
- **Pivoting, ergonomic steering column** ensures clean lines of sight.
- **Convenient forward-reverse travel switch** on right joystick.
- **Operator shielded from vibration** by viscous-mounted platform.
- **High-capacity heating and cooling** for comfort in any weather.

## MORE PROFIT

- **World-class Volvo engine** with industry-leading fuel economy.
- **New low-emissions Volvo V-ACT engine.**
- **Proven hydraulics:** optimum power where it's needed.
- **Harmonized power** with oil regeneration and priority features for faster cycles and more productivity per shift.

## MORE QUALITY

- **Heavy-gauge outriggers have wide stance** for excellent stability.
- **Stabilizer blade** has wide footprint, so it **won't damage pavement.**
- **Stout and solid undercarriage.**
- **Extra-duty boom and arm.**
- Robotically-welded superstructure with **double welds** at the corners for strength.
- **Long wheel base** for added stability and smoother ride.

## MORE UPTIME

- **Electronic control unit** monitors and troubleshoots all functions.
- **Easy-to-change cab air filter is located outside the cab.**
- **Cooling system is easier to clean.**
- **Daily checks done from the cab** using control monitor.
- **Long-life hydraulic oil** with 4,000-hour change interval.
- Convenient **centralized remote greasing points.**

# SPECIFICATIONS

## Engine

The next-generation Volvo diesel engine uses Volvo Advanced Combustion Technology (V-ACT) to deliver lower emissions and maintain superior performance and fuel efficiency. The EPA Tier 3 compliant engine uses precise, high-pressure fuel injectors, turbocharger and air-to-air intercooler, and electronic engine controls to optimize machine performance.

Engine	VOLVO D6E EDE3	
Power out at	30.0 r/s	<b>1,800 rpm</b>
Gross SAE J1995	115 kW	<b>154 hp</b>
Net ISO9249, DIN6271	106 kW	<b>142 hp</b>
Max. torque (1,350 rpm)	730 N.m	<b>538 lb.ft</b>
No. of cylinders	6	
Displacement	5.7 l	<b>348 cu.in</b>
Bore	98 mm	<b>3.86 "</b>
Stroke	126 mm	<b>4.96 "</b>

## Electrical system

High-capacity electrical system that is well protected. Waterproof double-lock harness plugs are used to secure corrosion-free connections. The main relays and solenoid valves are shielded to prevent damage. The master switch is standard.

Voltage	24 V	
Battery	2 x 12 V	
Battery capacity	140 Ah	
Alternator	28 V /80 A	
Alternator rating	2,240 W	

## Cab

Standard Volvo Care Cab with large and roomy interior, more leg room and foot space. One way travel pedal with rocker switch control (F-N-R) on the right joystick. One-touch release for digging brake pedal.

Audio system with remote control. 3 cup holders, 3 outlets, independently adjustable joystick consoles.

Excellent all-around visibility provided by maximized cab glass, transparent roof hatch, two-piece sliding door window and long-stroke, easy to adjust and narrow steering column. The liftable front windshield can easily be stored in the inside roof space and clipped in position. The removable lower front glass can be stored in the side door pocket. Interior lighting consists of one reading light and one light with timer.

The pressurized and filtered cab air is supplied by a 14-vent climate-control system providing fast defrosting and high cooling and heating performance. Viscous, spring mounted suspension cushions protect the operator from vibrations.

Deluxe air-suspension seat with adjustable seat suspension, height, tilt, recline and forward-backward settings.

Adjustable, easy-to-read 6.4" LCD color monitor provides real-time information on machine functions and important diagnostic information and is switchable to rearview camera monitor (option).

Sound Level:

In cab, acc. to ISO 6396	70 LpA dB(A)
External, acc. to ISO 6395 (Directive 2000/14/EC)	101 LwA dB(A)

## Undercarriage

Drivetrain: 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	
Max. tractive force (net)	99.5 kN	<b>22,368 lb</b>
Travel speeds		
on road	35.0 km/h	<b>21.7 mph</b>
off road	8.7 km/h	<b>5.4 mph</b>
creep	3.7 km/h	<b>2.3 mph</b>
Min. turning radius	7.2 m	<b>23' 7"</b>

## Brakes

Service brakes: Servo-hydraulically maneuvered self-adjusting wet multidiscs with 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") dipper arm, quick fit S6, 530 kg (1,168 lb)/750 l (0.98 yd<sup>3</sup>) bucket.

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

Total machine weight incl. dozer blade front and outriggers rear	17,430 kg	<b>38,260 lb</b>
	17,770 kg*	<b>39,176 lb*</b>
Total machine weight incl. dozer blade rear, excl. outriggers	16,350 kg	<b>36,045 lb</b>
	16,690 kg*	<b>36,795 lb*</b>
Total machine weight incl. front and rear outriggers	17,680 kg	<b>38,977 lb</b>
	18,020 kg*	<b>39,727 lb*</b>

## Service refill capacities

Fuel tank	250 l	<b>66 gal</b>
Hydraulic system, total	260 l	<b>68.7 gal</b>
Hydraulic tank	123 l	<b>32.5 gal</b>
Engine oil	25 l	<b>6.6 gal</b>
Engine coolant	25 l	<b>6.6 gal</b>
Transmission	2.5 l	<b>0.7 gal</b>
Axle differential		
Front axle	9.5 l	<b>2.5 gal</b>
Rear axle	12.5 l	<b>3.3 gal</b>
Final drive		
Wet disc type	4 x 2.5 l	<b>4 x 0.7 gal</b>

## Hydraulic system

Closed-center load-sensing hydraulic system with pressure compensated valves. Load independent 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 results 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 low noise.

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		
Max. flow	243 l/min	<b>64.2 gpm</b>
Brake + steering pump, type, low noise gear pump		
Max. flow	34.2 l/min	<b>9.0 gpm</b>
Servo pump, type		
Max. flow	14.0 l/min	<b>3.7 gpm</b>
Hydraulic oil cooling fan + pilot pump, type		
Max. flow	49.0 l/min	<b>12.9 gpm</b>
Max. pressure		
Implements	32.5 MPa	<b>4,714 psi</b>
	36 MPa	<b>5,221 psi</b>
Travel system	36 MPa	<b>5,221 psi</b>
Pilot system	3.5 MPa	<b>508 psi</b>

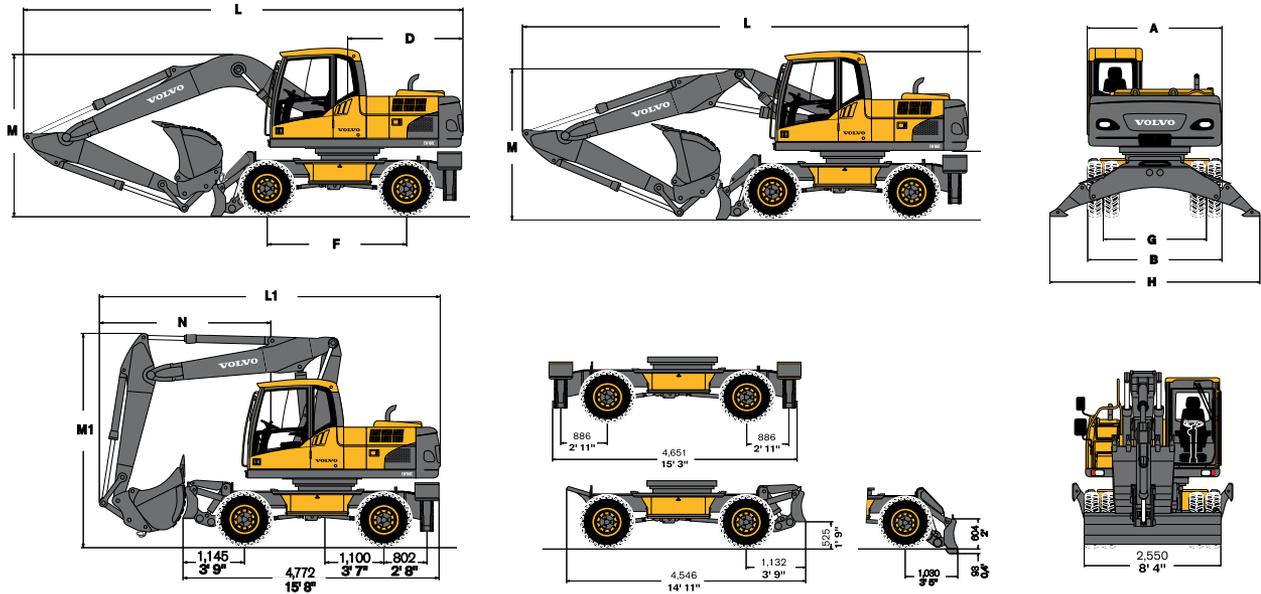
## Slew system

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

Automatic slew holding bake and anti-rebound valve are standard.

Max. slew speed	10.0 rpm	
Max. slew torque	49.6 kNm	<b>36,583 lb.ft</b>

## Dimensions



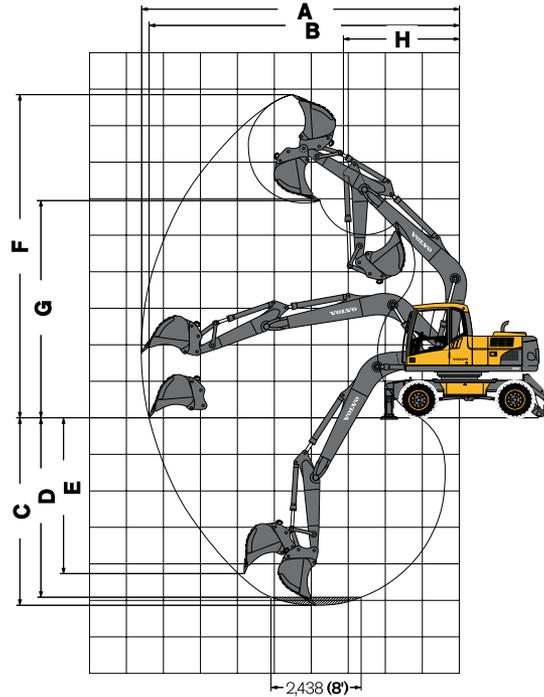
Description	Unit	5.0, 16' 5"		5.1, 16' 9"	
		Monoblock boom		2-piece boom	
A. Overall width of superstructure	mm, ft-in	2,490	8' 2"	2,490	8' 2"
B. Overall width	mm, ft-in	2,540	8' 4"	2,540	8' 4"
C. Overall height of cab	mm, ft-in	3,140	10' 4"	3,140	10' 4"
D. Tail slew radius	mm, ft-in	2,150	7' 1"	2,150	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	1,940	6' 4"	1,940	6' 4"
H. Outrigger width (front or rear)	mm, ft-in	3,990	13' 1"	3,990	13' 1"
I. Min. ground clearance	mm, ft-in	340	1' 1"	340	1' 1"

Description	Unit	5.0, 16' 5" Monoblock boom				5.1, 16' 9" 2-piece boom			
		2.0 6' 7"	2.45 8' 0"	2.6 8' 0"	3.0 9' 10"	2.0 6' 7"	2.45 8' 0"	2.6 8' 0"	3.0 9' 10"
L. Overall length	mm, ft-in	8,180 26' 10"	8,190 26' 10"	8,170 26' 10"	7,940 26' 1"	8,300 27' 3"	8,310 27' 3"	8,290 27' 2"	8,100 26' 7"
M. Overall height of boom	mm, ft-in	2,958 9' 8"	3,190 10' 6"	3,270 10' 9"	3,640 11' 11"	2,765 9' 1"	2,855 9' 4"	2,975 9' 9"	3,390 11' 1"
L1. Overall length	mm, ft-in					6,305 20' 8"	6,345 20' 10"	6,355 20' 10"	6,545 21' 6"
M1. Overall height of boom	mm, ft-in					3,960 13'	3,995 13' 1"	4,000 13' 1"	4,000 13' 1"
N. Front overhang	mm, ft-in					3,125 10' 3"	3,165 10' 5"	3,175 10' 5"	3,364 11'

\*without bucket

## Working ranges & digging forces

Monoblock boom 5.0 m **16' 5"** and  
dipper arm 2.0 m **6' 7"**, 2.45 m **8' 0"**, 2.6 m **8' 6"**, 3.1 m **10' 2"**



Description	Unit	Monoblock boom 5.0, 16' 5"			
		2.0 6' 7"	2.45 8' 0"	2.6 8' 6"	3.1 10' 2"
A. Max. digging reach	mm, ft-in	8,590 28' 2"	9,014 29' 7"	9,156 30' 0"	9,632 31' 7"
B. Max. digging reach on ground	mm, ft-in	8,390 27' 6"	8,824 28' 11"	8,969 29' 5"	9,455 31' 0"
C. Max. digging depth	mm, ft-in	5,135 16' 10"	5,585 18' 4"	5,735 18' 10"	6,235 20' 5"
D. Max. digging depth (2,440 mm, 8' level)	mm, ft-in	4,914 16' 1"	5,392 17' 8"	5,550 18' 3"	6,071 19' 11"
E. Max. vertical wall digging depth	mm, ft-in	4,267 14'	4,694 15' 5"	4,837 15' 10"	5,311 17' 5"
F. Max. cutting height	mm, ft-in	8,851 29'	9,111 29' 11"	9,196 30' 2"	9,479 31' 1"
G. Max. dumping height	mm, ft-in	5,949 19' 6"	6,188 20' 4"	6,237 20' 6"	6,556 21' 6"
H. Min. front slew radius	mm, ft-in	3,137 10' 4"	3,146 10' 4"	3,160 10' 4"	3,193 10' 6"

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

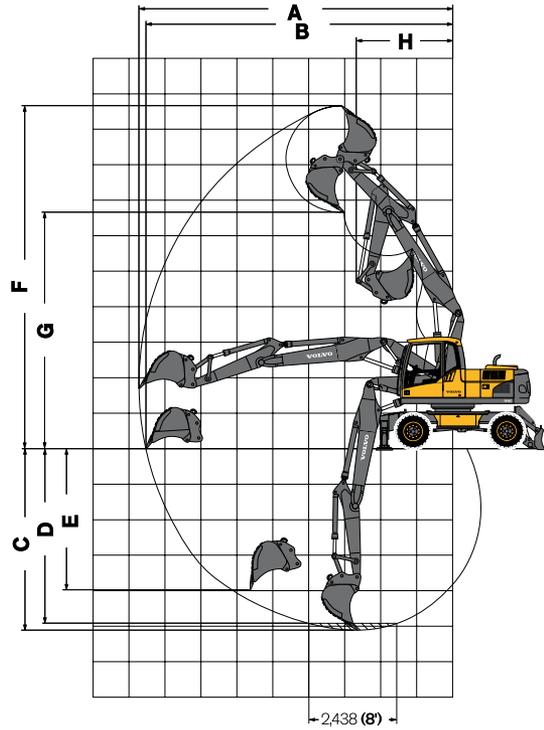
Max. permitted sizes for quick fit buckets:					
GP-Bucket (1.5 t/m³)		l, yd³	900 1.18	825 1.08	775 1.01
GP-Bucket (1.8 t/m³)		l, yd³	775 1.01	725 0.95	675 0.88

Max. permitted sizes for direct fit buckets:					
GP-Bucket (1.5 t/m³)		l, yd³	925 1.21	875 1.14	825 1.08
GP-Bucket (1.8 t/m³)		l, yd³	825 1.08	775 1.01	725 0.95

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 5.1 m, 16' 9" and  
dipper arm 2.0 m 6' 7", 2.45 m 8' 0", 2.6 m 8' 6", 3.1 m 10' 2"



Description	Unit	2-piece boom 5.1, 16' 9"			
		2.0 6' 7"	2.45 8' 0"	2.6 8' 6"	3.1 10' 2"
A. Max. digging reach	mm, ft-in	8,727 28' 8"	9,157 30' 1"	9,300 30' 6"	9,781 32' 1"
B. Max. digging reach on ground	mm, ft-in	8,531 28'	8,970 29' 5"	9,117 29' 11"	9,607 31' 6"
C. Max. digging depth	mm, ft-in	5,111 16' 9"	5,561 18' 3"	5,713 18' 9"	6,212 20' 5"
D. Max. digging depth (2,440 mm, 8' level)	mm, ft-in	4,918 16' 2"	5,385 17' 8"	5,540 18' 2"	6,054 19' 10"
E. Max. vertical wall digging depth	mm, ft-in	3,975 13' 0"	4,445 14' 7"	4,590 15' 1"	5,070 16' 8"
F. Max. cutting height	mm, ft-in	9,661 31' 8"	9,992 32' 9"	10,103 33' 2"	10,472 34' 4"
G. Max. dumping height	mm, ft-in	6,666 21' 10"	6,995 22' 11"	7,106 23' 4"	7,476 24' 6"
H. Min. front slew radius	mm, ft-in	2,684 8' 10"	2,815 9' 3"	2,857 9' 4"	2,996 9' 10"

Digging forces with direct fit bucket:					
Bucket radius		mm, in	1,260, 49.6"	1,260, 49.6"	1,260, 49.6"
Breakout force - bucket	(SAE/ISO)	kN lb	98.5/111.5 22,144 / 25,066	98.5/111.5 22,144 / 25,066	98.5/111.5 22,144 / 25,066
Tearout force	(SAE/ISO)	kN lb	97.3/98.2 21,874 / 22,076	85.2/85.7 19,154 / 19,266	81.7/82.2 18,367 / 18,479
Rotation angle, bucket		deg	185	185	185

Max. permitted sizes for quick fit buckets:					
GP-Bucket (1.5 t/m <sup>3</sup> )		l, yd <sup>3</sup>	825 1.08	750 0.98	725 0.95
GP-Bucket (1.8 t/m <sup>3</sup> )		l, yd <sup>3</sup>	725 0.95	675 0.88	650 0.85

Max. permitted sizes for direct fit buckets:					
GP-Bucket (1.5 t/m <sup>3</sup> )		l, yd <sup>3</sup>	875 1.14	800 1.05	775 1.01
GP-Bucket (1.8 t/m <sup>3</sup> )		l, yd <sup>3</sup>	775 1.01	700 0.92	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 arm end, without bucket. Unit: 1,000 kg (2,204.6 lb)

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 center																						
		u = support up      d = support down												Max. reach										
		1.5 m, 5'		3.0 m, 10'		4.5 m, 15'		6.0 m, 20'		7.5 m, 25'		Max. reach				Max. m								
		u	d	u	d	u	d	u	d	u	d	u	d	u	d	u	d	u	d					
2-piece boom 5.1 m, 16' 9" Stick 3.1 m, 10' 2" Front dozer blade rear outrigger	7.5 m																	2.8	2.8	2.8	2.8	5.9		
	25'																		6,300	6,360*	6,360*	6,360*	19.03	
	6.0 m																	2.8	3.5	3.5	3.5	7.1		
	20'																		5,930	7,760*	7,760*	7,760*	23.12	
	4.5 m																		4.1	4.1	4.1	4.1	7.8	
	15'																		2.7	3.8	3.8	3.8	25.57	
	3.0 m																		5,780	8,260*	8,260*	8,260*	8.2	
	10'																		3.9	5.3	5.3	5.3	26.85	
	1.5 m																		8,460	11,520*	11,520*	11,520*	27.15	
	5'																		3.6	6.6	6.6	6.6	8.1	
0.0 m																		5.1	5.1	5.1	5.1	26.48		
-1.5 m																		11,660*	11,660*	11,660*	11,660*	27.6		
-5'																		5.9	8.0	8.0	8.0	24.76		
-3.0 m																		12,640	18,370*	18,370*	18,370*	6.7		
-10'																		6.0	10.2	10.2	10.2	21.76		
2-piece boom 5.1 m, 16' 9" Stick 2.45 m, 8' 0" Front and rear outrigger	7.5 m																						5.0	
	25'																		4.3	4.3	4.3	4.3	15.92	
	6.0 m																		4.1	4.1	4.1	4.1	6.4	
	20'																		9,040*	9,040*	9,040*	9,040*	20.66	
	4.5 m																		6.1	6.1	6.1	6.1	7.2	
	15'																		13,020*	13,020*	13,020*	13,020*	23.38	
	3.0 m																		9.0	10.4	10.4	10.4	7.6	
	10'																		3.9	6.0	6.0	6.0	24.78	
	1.5 m																		8,330	12,990*	12,990*	12,990*	25.10	
	5'																		3.5	7.2	6.1	7.2	7.4	
0.0 m																		7,650	15,460*	13,230	15,460*	24.37		
-1.5 m																		6.1	9.1	9.1	9.1	6.9		
-5'																		13,090	20,800*	20,800*	20,800*	22.49		
-3.0 m																		7.2	16.2	16.2	16.2	5.4		
-10'																		3.4	6.5	6.0	6.5	17.26		
2-piece boom 5.1 m, 16' 9" Stick for grab 2.6 m, 8' 6" Front and rear outrigger	7.5 m																						5.2	
	25'																		4.1	4.1	4.1	4.1	16.66	
	6.0 m																		4.0	4.0	4.0	4.0	6.5	
	20'																		8,660*	8,660*	8,660*	8,660*	21.23	
	4.5 m																		4.2	4.7	4.7	4.7	7.3	
	15'																		9,080	10,070*	10,070*	10,070*	23.88	
	3.0 m																		3.9	5.9	5.9	5.9	7.7	
	10'																		8,360	12,650*	12,650*	12,650*	25.26	
	1.5 m																		3.5	7.0	6.2	7.0	7.8	
	5'																		7,650	15,190*	13,240	15,190*	25.57	
0.0 m																		4.6	4.6	4.6	4.6	7.6		
-1.5 m																		10,590*	10,590*	10,590*	10,590*	24.85		
-5'																		6.0	8.8	8.8	8.8	7.0		
-3.0 m																		12,970	20,150*	20,150*	20,150*	23.02		
-10'																		7.1	16.2	16.2	16.2	5.8		
2-piece boom 5.1 m, 16' 9" Stick for grab 3.1 m, 10' 2" Front and rear outrigger	7.5 m																						5.9	
	25'																						19.03	
	6.0 m																		2.8	3.5	3.5	3.5	7.1	
	20'																			5,980	7,760*	7,760*	7,760*	23.12
	4.5 m																		4.1	4.1	4.1	4.1	7.8	
	15'																		8,890*	8,890*	8,890*	8,890*	25.57	
	3.0 m																		4.0	5.3	5.3	5.3	8.2	
	10'																		8,540	11,520*	11,520*	11,520*	26.85	
	1.5 m																		3.6	6.6	6.2	6.6	8.3	
	5'																		7,750	14,330*	13,380	14,330*	27.15	
0.0 m																		5.1	5.1	5.1	5.1	8.1		
-1.5 m																		11,660*	11,660*	11,660*	11,660*	26.48		
-5'																		5.9	8.0	8.0	8.0	7.6		
-3.0 m																		12,760	18,370*	18,370*	18,370*	6.7		
-10'																		6.0	10.2	10.2	10.2	21.76		

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, 4-stroke Volvo diesel engine with water cooling, direct injection and charged air cooler that meets EPA (Environmental Protection Agency) Tier 3 emissions standards  
Intake air pre-heater  
Electric engine shut-off  
Fuel filter and water separator  
Aluminum core radiator  
Dust screen, radiator/oil cooler

### Electric/Electronic control system

Contronics  
– Advanced mode-control system  
– Self-diagnostic system  
Master electrical disconnect switch  
Automatic idling system  
One-touch power boost  
Adjustable LCD color monitor  
Engine restart prevention circuit  
Safety stop/start function  
Travel alarm  
High-capacity halogen lamps  
– Frame-mounted 2  
– Cab-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  
Stone protection rings  
Front dozer blade and rear outriggers  
2-speed power transmission plus creep speed  
Oscillating front axle  $\pm 9^\circ$   
2-circuit travel brakes  
Maintenance-free propeller shafts

### Superstructure

Counterweight, 3,200 kg, **7,055 lb**  
Service walkway with anti-slip grating  
Centralized lubricating point for slew bearing

### Cab and interior

Care Cab with polycarbonate top window  
Heater & air-conditioner, automatic  
Hydraulic dampening cab mounts  
Adjustable operator seat and joystick control console  
Fabric seat with heater and air suspension  
Adjustable steering wheel  
Hydraulic safety lock lever  
Control joystick with 5 switches each  
Cab, all-weather sound suppressed, includes:  
– Ashtray  
– Cup holder (x 3)  
– Lighter  
– Door locks

– Safety glass, light tinted  
– Floor mat  
– Horn  
– Large storage area  
– Pull-up type front window  
– Removable lower windshield  
– Seat belt (3 inches)  
– Windshield wiper with washer and intermittent feature  
– AM/FM stereo with cassette includes flexible antenna  
Opening top hatch  
Sun shield, front, roof, rear  
Anti-vandalism kit assembly preparation  
Master key

### Hydraulic system

Load-sensing hydraulic system  
Cylinder cushioning  
Cylinder contamination seals  
Return filter of full flow type 2,000 h exchange interval  
Pressure relief system (servo accumulator)  
Thermostatically-controlled cooling fan  
Hose rupture valve for boom cylinder  
Hydraulic oil, ISO VG 46

### Digging equipment

Attachment points for extra hydraulics  
Centralized lubrication point

## OPTIONAL EQUIPMENT

### Engine

Diesel coolant heater, programmable  
Block heater 120 V  
Fuel filler pump: 50 l/min, **13.2 gpm** with automatic shut-off  
Particle filter  
Water separator with heater

### Electric

Rotating beacon  
Extra work lights:  
– Service walkway 1 and counterweight 1  
– Boom-mounted 2  
Electric center passage  
Rearview camera  
Anti-theft system

### Hydraulic system

Hose rupture valve for dipper arm  
Boom float function  
Hydraulic oil, ISO VG 32  
Hydraulic oil, ISO VG 68  
Hydraulic oil, biodegradable 32  
Hydraulic oil, biodegradable 46  
Hydraulic equipment for:  
A. Hammer & shears  
B. Slope bucket/rotator  
C. Quick fit

### Cab and interior

Proportional control joystick  
Falling object guard (FOG)  
Cab-mounted falling object protective structures (FOPS)  
Rain shield, front  
Protective screen for front window  
Lower wiper  
Anti-vandalism kit  
Fabric seat  
Fabric seat with heater

### Undercarriage

Single tire 18R-19.5  
Rear dozer blade  
4 outriggers  
Mudguards, front/rear  
Toolbox, left hand side/right hand side  
Cruise control

### Digging equipment

Booms  
5,0 m, **16' 5"** monoblock  
5,1 m, **16' 9"** 2-piece boom  
Dipper arms  
2,0, **6' 7"**  
2,45, **8' 0"**  
2,6, **8' 6"**  
3,1, **10' 2"**

### Hydraulic quick coupler

Volvo S1 system

### Service

Tool kit



Volvo Construction Equipment is different. It's designed, built and supported in a different way. That difference comes from an engineering heritage of over 170 years. 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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# **VOLVO**

## **Construction Equipment**

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