

VOLVO EXCAVATORS

# EC80D

7.4-8.3 t 44.4kW





# BUILT BIGGER. DESIGNED STRONGER.



## Machine size

The EC80D has been built larger and heavier than competitor products in the same class to ensure superior productivity and profitability. The wider and longer undercarriage provides excellent stability and lifting capacity together with fantastic ground clearance and working range.

Introducing the Volvo EC80D – the biggest excavator in its class. If you're looking for a strong, stable and durable platform, look no further than the EC80D which boasts new levels of strength and durability. Capitalize on greater machine size and weight and reap the benefits of maximum productivity with Volvo.

#### Bucket size

Thanks to its large size, the EC80D can be used with a bigger bucket than similar machines in the same class – increasing productivity. The Volvo designed bucket is specifically matched to the machine's size for maximum performance.



#### Boom and arm

The boom and arm are made from high strength tensile steel for maximum durability and uptime. The boom is fixed to the superstructure at the side of the cab for improved stability and visibility of the job site.



#### Working range

The configuration of the boom and arm provide optimal working range – allowing the machine to reach further and dig deeper for increased productivity.



# MORE PERFORMANCE, LESS FUEL.

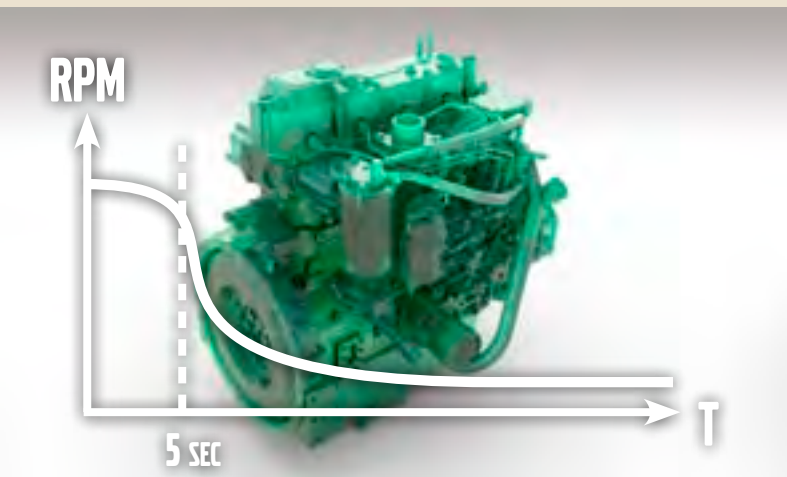
Volvo prides itself on producing machines that give you more power while using less fuel. The EC80D's enhanced hydraulic system is perfectly matched to the engine – delivering high performance and reduced fuel consumption. Features including industry-leading lift capacity and high digging power give you the most efficient operation possible – saving you time and money. The EC80D is in a league of its own.

## Volvo engine

The powerful Volvo D3 diesel engine delivers 44.4kW and low fuel consumption. The automatic idling system reduces engine speed to idle when the controls are inactive for five seconds or the left-hand console is raised. The engine returns to the pre-selected speed when a control is touched or automatic idling is turned off.

## Lifting capacity

The EC80D features industry-leading lifting capacity which, combined with strong hydraulic performance and stability, delivers exceptional lift and handling capabilities.



## Tractive force

Superior tractive force enables the machine to climb gradients with ease and travel over rough terrain. If an optional dozer blade is selected, tractive force will also aid backfilling and landscaping.

## Swing performance

The balance between the torque and swing speed permits fast and precise placement of the attachment – even when working on a slope.





#### Digging power

High digging force is delivered through optimum engine power and hydraulic pressure while excellent pump flow and swing torque enable faster cycle times – particularly when working with hard materials and a larger bucket.



# OPTIMIZE PRODUCTIVITY.



## Cab

Volvo's industry-leading cab offers enhanced visibility from large expanses of glass. For reduced fatigue and increased productivity, the spacious and comfortable environment provides easy to access controls, an efficient heating/air conditioning system and vibration and noise isolation.



At Volvo we understand that when operators are comfortable they experience less fatigue and work more productively. That's why we've built an industry-leading, spacious operator environment with excellent all-around visibility. Operators will feel in control and perform efficiently all day long in this superior working environment. Witness the benefits for yourself and experience new levels of profitability.

### ROPS

Volvo recommends an optional Roll Over Protective Structure (ROPS) certified cab when working in challenging applications. This provides increased operator safety in the unlikely event of machine roll over.

### I-ECU monitor

The large monitor clearly presents machine information and puts the operator in control, enabling high performance and efficiency. The operator and service technician can make quick visual and diagnostic checks, increasing uptime and productivity.



### Travel alarm

For added safety a buzzer sounds to warn bystanders when the machine moves in any direction.

### RPM control

An electrical rpm control system allows the operator to precisely adjust and optimize engine rpm in any application. By using the rpm settings, fuel efficiency and machine performance are maximized. There are nine rpm settings as well as the P (Power) max mode.

# SMART SERVICEABILITY.

Taking care of your excavator shouldn't be complicated. That's why the EC80D is packed with maintenance saving features to help you work for longer and sustain productivity day in and day out. Benefit from the Volvo experience and enjoy intuitive maintenance with the EC80D.

## Fuel filler pump

Easily fill the large capacity diesel tank from the ground via an electric pump which includes an automatic stop function. The tank is filled within four minutes at a delivery rate of 35 liters per minute. For ease of operation the pump is switched on next to the tank.

## Tool box and step

The front step provides easy maintenance and service access to the main hydraulic check points. Tools and a grease gun can be stored inside a large tool box located on the right, front side of the machine.



## Hydraulic gauge

The hydraulic oil level can be seen from inside the cab – allowing the operator to carry out fast maintenance checks for increased uptime.

## VCADS Pro

The VCADS Pro (Volvo Computer Aided Diagnostic System Professional) analysis and programming tool makes it easy to control the machine for increased performance.





#### **Serviceability**

Grouped service points and excellent access to the engine compartment via the engine hood – which can be fully opened – allows regular checks to be done faster for maximum machine uptime.



# DESIGNED TO MEET YOUR NEEDS.

## Volvo D3 engine

Powerful engine delivers 44.4kW. Volvo engine and automatic idling system provide low fuel consumption.

## Bucket size

Due to its larger size, the EC80D can be used with a bigger bucket than similar machines in the same class – increasing productivity.



## Boom and arm

The boom and arm are made from high strength tensile steel for maximum durability and uptime.

## Maintenance free swing motor

The maintenance free swing motor design features a robust axial piston providing excellent performance.

## Fuel filler pump

Easily fill the large capacity diesel tank in less than four minutes via an electric pump. The pump features an automatic stop function.



## Digging power

The enhanced hydraulic system is perfectly matched to the engine to deliver high digging force.







**Machine size**

The EC80D is bigger and heavier than competitor products in the same class to ensure more productivity and profitability.

**Lifting capacity**

Industry-leading lift capacity delivers exceptional lifting and handling capabilities.

**VCADS Pro**

This analysis and programming tool makes it easy to control the machine for increased performance.



**Volvo cab**

The industry-leading cab offers a spacious and comfortable environment with enhanced visibility for reduced fatigue and increased productivity.

**Tool box and step**

Front step provides easy maintenance access. Tools are stored within a large box located above the step.



**Service access**

Grouped service points and ground level access allow regular checks to be done faster for maximum machine uptime.



**Customer Support Agreements**

Customer Support Agreements offer service and maintenance with maximum cost control and minimum downtime.

**ROPS**

An optional Roll Over Protective Structure (ROPS) certified cab is available for increased operator safety.



# FIRST-CLASS SUPPORT.

At Volvo we're not just committed to providing you with a quality machine – we can also deliver continuous state-of-the-art support through our customer solutions. On site, time means money and that's why we have a unique, global dealer support network to ensure your machine's availability during its entire lifetime. Take advantage of the excellent Volvo support network and enjoy access to all the products and competence required to ensure your machine generates maximum profit and growth for your business.

## Operator training

Eco Operator courses are a fast and easy way to increase productivity and reduce costs. Operators are trained to become more productive, fuel efficient and safer as well as reduce wear and tear on your machines. The program teaches correct operation and maneuvering as well as how to plan work in the smartest, most efficient way.

## Genuine Volvo Parts

Volvo Service Technicians work with industry-leading diagnostic tools and techniques, using only Genuine Volvo Parts to deliver the highest levels of quality and service. Talk to your local Volvo dealer about how genuine Volvo services can provide the service and maintenance plan that best fits your needs.



## Support center

Volvo customers have direct access to the unique dealer support network. Customers can telephone a support number 24 hours a day, seven days a week, which identifies the call and transfers it to the local dealer where a dedicated team will take care of your needs – maximizing machine uptime.





#### Customer Support Agreements

Customer Support Agreements offer service and maintenance with controlled costs and maximum uptime. The flexible system caters for a range of needs from total repair and maintenance to an inspection program covering vital parts and functions.



# GET THE MOST FROM YOUR EXCAVATOR.



## Breaker piping

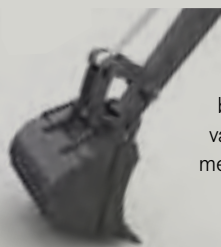
The optional hydraulic breaker piping gives you the versatility and flexibility needed on a variety of job sites – whether you're working in the utilities, building, road construction or any other segment.



For increased versatility and profitability, the EC80D has been built attachment ready. Get the most out of your machine with Volvo attachments which have been designed to perfectly match and work in harmony with your excavator. The EC80D is a versatile machine that can effectively perform a variety of tasks. Get the job done with reduced cycle times and reduced fuel consumption with Volvo.

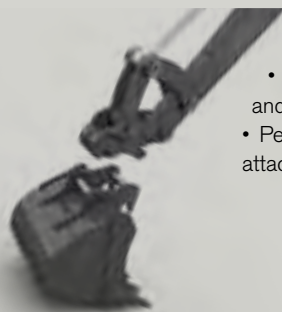
## Interfaces

### Direct fit



Direct fit attachments will always deliver a high performance however with the need for excavators to handle more tasks than ever before, Volvo offer Quick Couplers providing various levels of versatility and performance to meet every need.

### Mechanical quick coupler



- Picks the variety of different direct fit Volvo buckets
- Buckets utilization in both face shovel position and normal back hoe position
- Perfect match for other Volvo hydraulic attachments (breakers and thumb)

## Buckets

### General purpose buckets

Designed to be used in a large variety of soil conditions for all trenching and handling jobs. Some features include: an integrated interface which retains more of the machine performance, wear strips and optional side cutters. Available in different widths: 770-890 mm, excluding side cutters.



### Fixed ditching buckets

Fixed ditching buckets are designed for grading / landscaping, cleaning ditches and back filling. Width: 1500 mm.



### Tilttable ditching bucket

A tilttable ditching bucket is a very flexible and versatile solution for grading / landscaping, cleaning ditches and back filling. This bucket will support in an extra dimension compared to the fixed version. Width: 1500 mm.



### Hydraulic thumb

Provides the operator more opportunities to get the most from the machine. Some work may include piling, lifting, carrying, placing and loading various types of materials with ease. Also works with quick couplers.



## Breaker

### Hydraulic breaker

Designed for optimum compatibility with Volvo machines, the Volvo hydraulic breaker range combines excellent operating performance with low vibration:

- Increase performance and productivity
- Reliable and simple to maintain
- Designed for a perfect fit



## Performance Parts

An all-round tooth and adapter system that combines strength and durability with quick and easy tooth change.



### Tooth

Engineered for combined durability and penetration. Manufactured with optimal material composition and heat treatment process.

### Adapter

Designed for optimal fitting with the tooth, better retention and better cutting edge protection.



# VOLVO EC80D IN DETAIL.

## Engine

Volvo low-emission compliant diesel engine uses precise, high pressure fuel injectors. Air Filter: 2 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 levels.

Model	D3.4A	
Max. power at	r/s / r/min	35 / 2 100
Net (ISO 9249/SAEJ1349)	kW / hp	42 / 57
Gross (SAE J1995)	kW / hp	44.4 / 60
Max. torque	Nm/ r/min	243 / 1 000
No. of cylinders		4
Displacement	l	3,319
Bore	mm	98
Stroke	mm	110

## Electrical system

Voltage	V	12
Battery capacity	V/Ah	12 / 100
Alternator	V/Ah	12 / 55
Starter motor output	V/kW	12 / 3

## Hydraulic system

Closed-center, load-sensing hydraulic system (CCLS) providing fuel savings and independent control of functions

Variable-displacement, load-sensing pump for all equipment:

Maximum flow	l/min	1 x 174
Maximum operating pressure	MPa	29.4
Pilot pump (Gear pump) for the power assistance circuit:		
Maximum flow	l/min	1 x 16.8
Maximum operating pressure	MPa	3.4

Swing circuit:

Maximum operating pressure	MPa	24.5
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Travel circuit:

Maximum operating pressure	MPa	29.4
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## Swing system

Swing provided by direct-drive, radial piston motor (no reduction gear). An automatic holding brake and anti-rebound valve are standard.

Max. swing speed	r/min	10
Swing Torque	kNm	21

## Undercarriage

The undercarriage has a robust X-shaped frame. Greased and sealed track chains are standard.

Track shoes		2 x 39
Link pitch	mm	154
Shoe width	mm	450
Bottom rollers		2 x 5
Top rollers		2 x 1

## Travel system

Each track is powered by an automatic two-speed shift travel motor. The track brakes are multi-disc, spring-applied and hydraulic released. The travel motor, brake and planetary gears are well protected within the track frame.

Travel speed (low / high)	km/h	2.6 / 5.1
Max. tractive effort	kN	65
Gradeability	°	35

## Service refill capacities

Fuel tank	l	145
Hydraulic system, total	l	140
Hydraulic tank	l	80
Engine oil	l	11.5
Engine coolant	l	7
Travel reduction unit	l	2 x 1.6

## Sound Level

Sound level in cab according to ISO 6396		Standard
LpA	dB(A)	70

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

LpA	dB(A)	99
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## BUCKETS



### Buckets

	Width	Weight	Capacity
Units	mm	kg	liter
	770	210	310
	830	219	340
	890	227	370

## MACHINE WEIGHTS AND GROUND PRESSURE

### EC80D

EC80D with 3.7 m boom, 1.65 m arm, 310 l (210kg) bucket, 650 kg counterweight

Description	Shoe width	Operating weight	Ground pressure
Units	mm	kg	kPa
Steel track	450	7 450	33.3

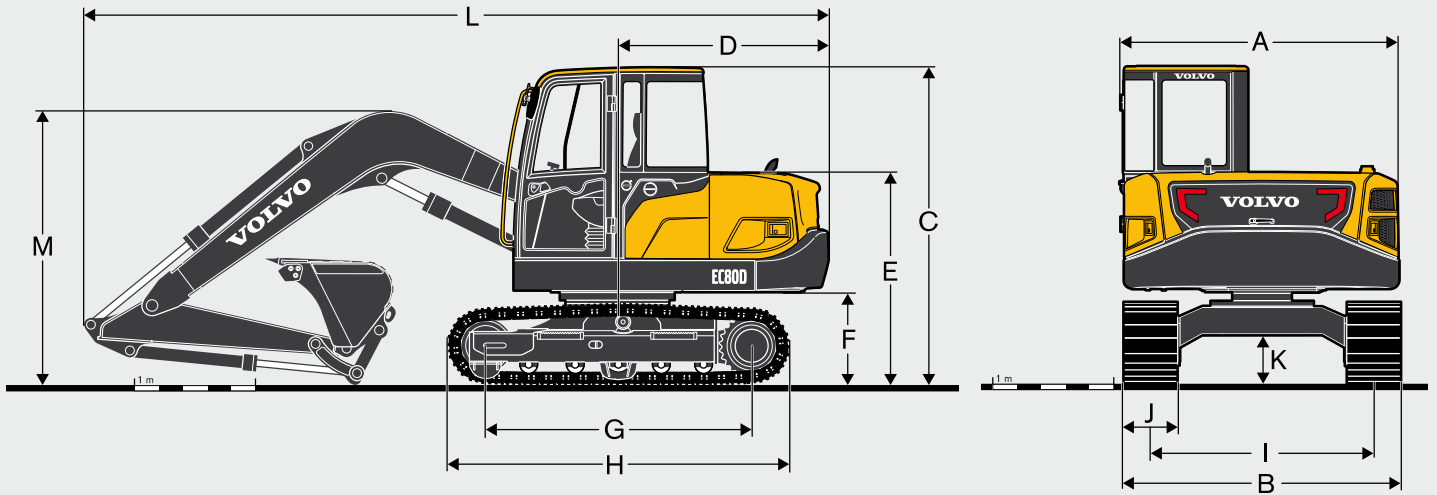
Operating weight; including operator's weight 80kg

## DIGGING

Digging Performance			
Breakout force - bucket	SAE J1179	kN	49
	ISO 6015	kN	55
Tearout force - dipper arm	SAE J1179	kN	39
	ISO 6015	kN	40
Rotation angle, bucket		°	174

# SPECIFICATIONS.

## DIMENSIONS



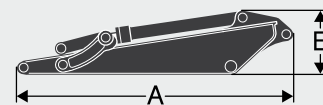
		Unit	
A	Overall width of upper structure	mm	2 280
B	Overall width	mm	2 300
C	Overall height of cab	mm	2 655
D	Tail swing radius	mm	1 750
E	Overall height of engine hood	mm	1 740
F	Counterweight clearance*	mm	755
G	Tumbler length	mm	2 200
H	Track length	mm	2 850
I	Track gauge	mm	1 850
J	Shoe width	mm	450
K	Min. ground clearance*	mm	400
L	Overall length	mm	6 165
M	Overall height of boom	mm	2 360

\* Without shoe grouser

Boom



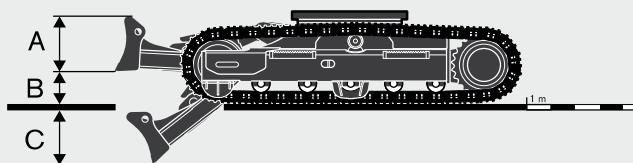
Arm



	unit	Boom	Arm
A	Length	m	3.7
B	Height	mm	3 900
	Width	mm	1 950
	Weight	kg	420
			770
			1.65
			2 300
			560
			190
			300

Boom: Includes cylinder, piping and pin, excludes boom cyl. Pin

Arm: Includes cylinder, linkage and pin

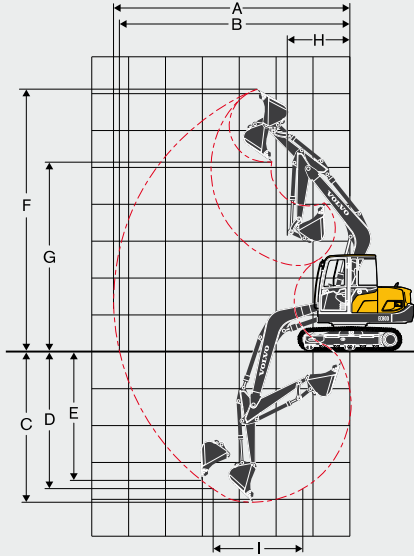


	unit	
A	Height	mm
	Width	mm
B	Lifting height	mm
C	Digging depth	mm
		470
		2 300
		490
		455



# SPECIFICATIONS.

## WORKING RANGES



		unit	
A	Max. digging reach	mm	6 420
B	Max. digging reach on ground	mm	6 270
C	Max. digging depth	mm	4 100
D	Max. digging depth (l = 2 440mm level)	mm	3 740
E	Max. vertical wall digging depth	mm	3 530
F	Max. cutting height	mm	7 130
G	Max. dumping height	mm	5 150
H	Min. front swing radius	mm	1 690

## LIFTING CAPACITY EC80D.

Lifting capacity at the arm end without bucket.

For lifting capacity including bucket. Simply subtract actual weight of the direct fit bucket or the bucket with quick coupler from the following values.

	Lifting hook related to ground level	1.0 m		2.0 m		3.0 m		4.0 m		5.0 m		Max. reach		
		Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Along	Across	Max. m
Boom 3.7m	6.0 m kg											*1 780	*1 780	2.5
Arm 1.65m	5.0 m kg					*1 470	*1 470					*1 560	*1 560	3.9
Shoe 450mm	4.0 m kg					*1 590	*1 590	*1 500	*1 500			*1 520	*1 410	4.7
CWT 650kg	3.0 m kg			*2 870	*2 870	*1 990	*1 990	*1 660	*1 660	1 450	1 250	1 380	1 180	5.1
Without Dozer blade	2.0 m kg					*2 540	*2 540	*1 900	1 720	1 410	1 210	1 260	1 080	5.4
	1.0 m kg					*2 960	2 490	1 920	1 630	1 370	1 170	1 220	1 040	5.4
	0 m kg					2 900	2 410	1 860	1 570	1 340	1 140	1 260	1 070	5.2
	-1.0 m kg	*2 840	*2 840	*4 210	*4 210	2 890	2 390	1 840	1 560			1 400	1 190	4.9
	-2.0 m kg	*5 100	*5 100	*3 600	*3 600	*2 590	2 430	*1 850	1 590			*1 710	1 490	4.2
-3.0 m kg			*2 450	*2 450	*1 660	*1 660					*1 600	*1 600	3.1	
Boom 3.7m	6.0 m kg											*1 780	*1 780	2.5
Arm 1.65m	5.0 m kg					*1 470	*1 470					*1 560	*1 560	3.9
Shoe 450mm	4.0 m kg					*1 590	*1 590	*1 500	*1 500			*1 520	*1 520	4.7
CWT 650kg	3.0 m kg			*2 870	*2 870	*1 990	*1 990	*1 660	*1 660	*1 520	1 420	*1 520	1 350	5.1
Dozer blade down	2.0 m kg					*2 540	*2 540	*1 900	*1 900	*1 600	1 380	*1 550	1 230	5.4
	1.0 m kg					*2 960	2 850	*2 110	1 860	*1 700	1 340	*1 580	1 200	5.4
	0 m kg					*3 080	2 770	*2 220	1 810	*1 730	1 310	*1 630	1 230	5.2
	-1.0 m kg	*2 840	*2 840	*4 210	*4 210	*2 960	2 760	*2 170	1 790			*1 680	1 370	4.9
	-2.0 m kg	*5 100	*5 100	*3 600	*3 600	*2 590	*2 590	*1 850	1 820			*1 710	*1 710	4.2
-3.0 m kg			*2 450	*2 450	*1 660	*1 660					*1 600	*1 600	3.1	
Boom 3.7m	6.0 m kg											*1 780	*1 780	2.5
Arm 1.65m	5.0 m kg					*1 470	*1 470					*1 560	*1 560	3.9
Shoe 450mm	4.0 m kg					*1 590	*1 590	*1 500	*1 500			*1 520	*1 520	4.7
CWT 650kg	3.0 m kg			*2 870	*2870	*1 990	*1 990	*1 660	*1 660	*1 520	1 350	*1 520	1 280	5.1
Dozer blade up	2.0 m kg					*2 540	*2 540	*1 900	1 850	*1 600	1 310	1 470	1 170	5.4
	1.0 m kg					*2 960	2 680	*2 110	1 760	1 610	1 270	1 440	1 130	5.4
	0 m kg					*3 080	2 600	2 180	1 710	1 580	1 240	1 480	1 170	5.2
	-1.0 m kg	*2 840	*2 840	*4 210	*4 210	*2 960	2 590	2 160	1 690			1 650	1 300	4.9
	-2.0 m kg	*5 100	*5 100	*3 600	*3 600	*2 590	*2 590	*1 850	1 720			*1 710	1 620	4.2
-3.0 m kg			*2 450	*2 450	*1 660	*1 660					*1 600	*1 600	3.1	

- Notes:
1. The above loads are in compliance with SAE J1097 and ISO 10567 Hydraulic Excavator Lifting Capacity Standards.
  2. Rated loads do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
  3. Rated loads marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load.

# EQUIPMENT.

EQUIPMENT	STD	OPT
<b>Engine</b>		
Low-emission Volvo diesel engine	•	
Standard cooling system(40 deg. C)	•	
Two-stage air filter	•	
Fuel filter and water separator	•	
Fuel filler pump: 35 l/min, with automatic shut-off	•	
Alternator, 55 A	•	
<b>Electric/Electronic control system</b>		
Safe engine start function	•	
Automatic idling system	•	
Halogen working lights; Frame-mounted 1, Boom-mounted 1	•	
Extra working lights; Cab-mounted 2 (front 1, rear 1)		•
Rotating warning beacon		•
Travel alarm	•	
Battery, 12 V / 100 Ah	•	
Start motor, 12 V / 3 kW	•	
<b>Hydraulic system</b>		
Automatic two speed travel motors	•	
Hose rupture valve for boom		•
Cylinder cushioning	•	
Hydraulic fluid mineral 46	•	
Hammer control		•
Hammer boom piping		•
<b>Cab and interior</b>		
Cab with slide window	•	
Fabric operator seat with suspension	•	
Control joystick with LH/RH one button	•	
Heater and air-conditioner	•	
AM/FM stereo	•	
Hour meter (non analog)	•	
ROPS certified cab		•
Head rest for fabric seat		•
Seat belt, 2 inch retractable		•
AM/FM stereo with CD player and USB input		•
Mechanical hour meter		•
FOG (Falling Object Guard)		•
FOPS (Falling Object Protection Structure)		•
<b>Frame</b>		
Lower frame without dozer blade	•	
Lower frame with dozer blade		•
650kg counterweight	•	
<b>Undercarriage</b>		
Greased and sealed track link	•	
450mm steal track	•	
<b>Digging equipment</b>		
3.7m Boom, 1.65m Arm	•	
Linkage	•	
<b>Service</b>		
Tool kit, full scale	•	
Tool kit-daily maintenance		•
Spare parts	•	

## SELECTION OF VOLVO OPTIONAL EQUIPMENT



Dozer blade



X1 piping



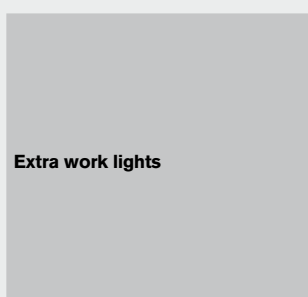
Rotating beacon



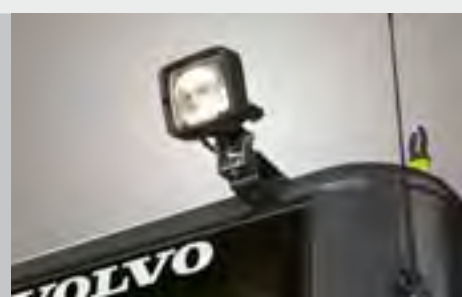
CD player with USB



FOG



Extra work lights





# VOLVO CONSTRUCTION EQUIPMENT

Volvo Construction Equipment is different. Our machines are designed, built and supported in a different way. That difference comes from an engineering heritage of over 180 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.

Not all products are 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**

**Volvo Construction Equipment**  
[www.volvoce.com](http://www.volvoce.com)

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