



Volvo Construction Equipment

# EC270

Volvo Compact Excavators 2.73 t 21.2 hp



# Ultimate performance

Stretch further, dig deeper and reach higher with the EC27D. Based on a proven design, this compact excavator is built to perform and boost profitability. Combining intuitive operation and operator comfort with simple serviceability, this machine provides all the strength and versatility you need – because big jobs demand big performance.

## Maintenance made easy

It's easy to keep your hardworking EC27D up and running with worry-free maintenance. The wide-opening lockable engine hood provides clear access to all daily service points, while the minimum 50-hour interval on all greasing points saves time and money. Check hydraulic oil at a glance using the Volvo patented hydraulic filter, with transparent housing to prevent unplanned downtime.



## Control costs

Decrease your total cost of ownership with a range of built-in features. The ideally matched Volvo engine and single variable displacement pump reduce fuel consumption, while auto-idle and auto-engine shutdown maximize fuel efficiency, cut service costs and ensure high resale value. Controlling your costs shouldn't be complicated, which is why the flat glass windows of the Volvo cab can be replaced easily and inexpensively.



## The operator's choice

As the industry's leading operator environment, the easily accessible Volvo cab boasts superb visibility, comfortable seat, ergonomic controls, and conveniently located cup holder and phone holder. The flat floor makes cleaning easy, while noise and vibration insulation keep the operator fresh and focused – longer.



## Intuitive operation

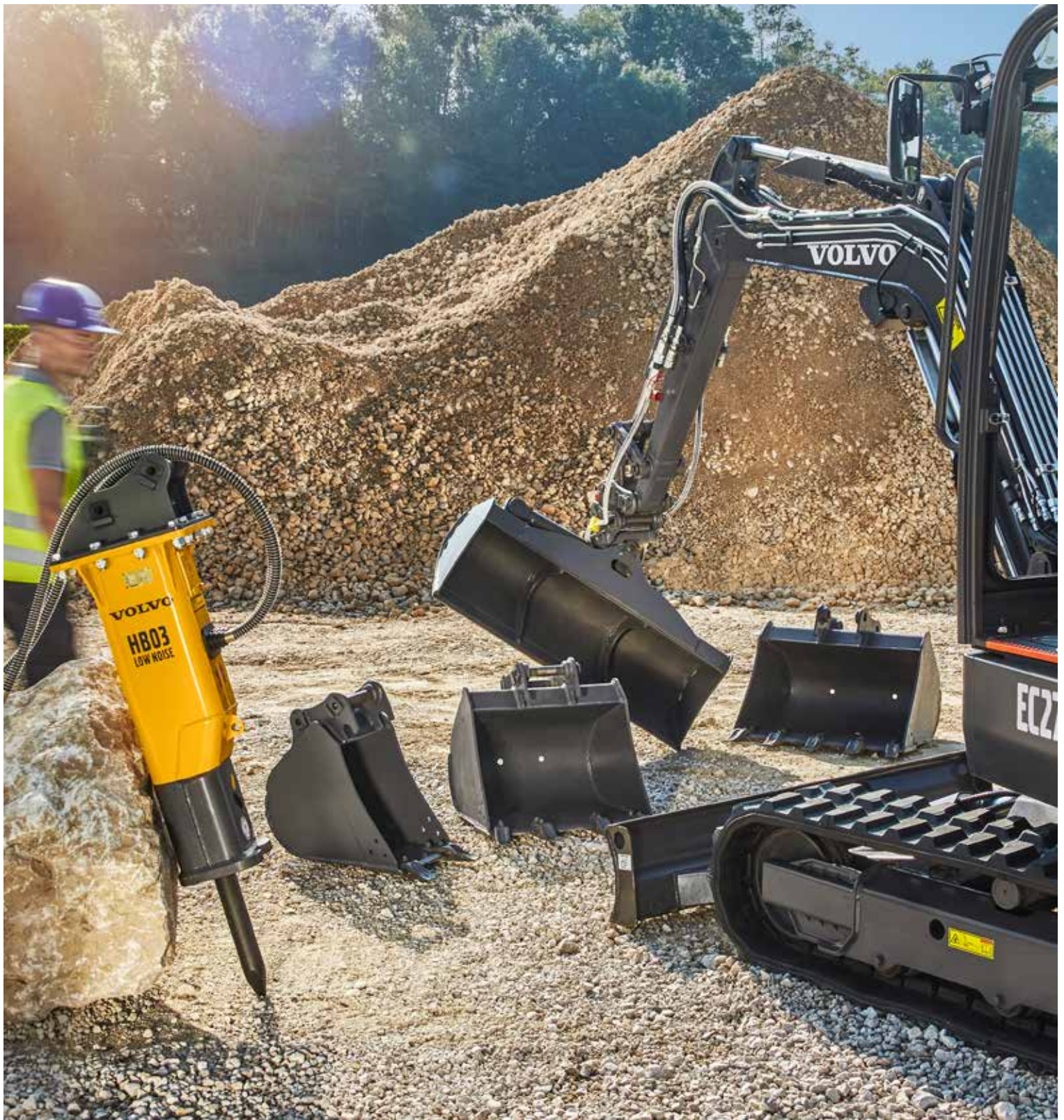
Experience precise, smooth and effortless command of the boom offset and auxiliary hydraulic flows. With easy-to-use proportional fingertip controls and the ability to fine-tune the maximum hydraulic flow speed or power of any attachment is ideally matched to the task at hand. For optimized travel speed and traction, the automatic two-speed travel allows the machine to shift down when more effort is needed.





# DESIGNED TO PERFORM

Experience best-in-class performance with the rock-solid EC27D, combining over 42kN of digging forces with superior lift capacity and unshakable stability. The smooth combination of movements makes grading jobs easy, while the extended working range allows for less repositioning. Thanks to these high-performing features and the ability to work close to the blade, finishing work on the jobsite has never been so quick.



# BUILT READY

Get the most out of your hardworking EC27D with Volvo's range of durably-designed attachments. Purpose-built to work in harmony with your machine, Volvo attachments optimize versatility and uptime of your EC27D, enabling you to effectively perform a variety of jobs.

# All work, all the time

Built to work for you, the EC27D is an industry-leader. Optimize machine performance, productivity and versatility with Volvo's range of durable attachments and Customer Solutions. Tailored to your business and operations - just like your EC27D - our unique, global dealer support network is built around you. Protect your profits with a long-term partnership and benefit from an array of services using Genuine Volvo Parts, delivered by passionate people.

## Fast, safe change outs

Change attachments quickly and efficiently with the pin-grabber mechanical quick coupler from Volvo. Compatible with the wide range of Genuine Volvo attachments, Volvo couplers ensure the optimum versatility for any task you choose.



## Unlock your potential

Unlock the full potential of your operation with the EC27D, compatible with any attachment, installed safely and easily thanks to built-in relief valves. And, with the secondary accessory circuit, you have the potential to do even more. Contact your local dealer and benefit from leading expertise and advanced attachment solutions.



## Volvo - a partner to trust

Being a Volvo customer means having a complete set of services at your fingertips. Your dealer is here for you and your machine anytime, anywhere – offering professional expertise, financial packages and Customer Support Agreements, catered specifically to help you achieve your business objectives.



## Keep your Volvo a Volvo

We're committed to providing a complete solution to guarantee the highest performance of your Volvo machine, including high quality Genuine Volvo Parts, extensively tested and approved because every part is vital for performance. Rely on our leading parts availability to ensure maximum uptime, extend the life of your Volvo and optimize the profitability of your business.



# Up to the challenge

## Maintenance made easy

Daily service points are grouped under the engine hood and are easily accessible for straightforward maintenance.

## The operator's choice

Ergonomic, spacious and safe, the Volvo cab features all around visibility, intuitive controls and built-in comfort.

## 50-hour greasing intervals

The greasing interval is 50-hours, cutting down service costs.

## Volvo - a partner to trust

We offer the right solutions throughout the entire life cycle of your Volvo to help you achieve your business objectives.

## Auto-idle

Engine speed is reduced to idle when controls are inactive for more than five seconds, reducing fuel consumption and noise.

## Ultimate lifting capacity

Excellent stability and outstanding hydraulics ensure the machines are capable of lifting heavy loads.



## DESIGNED TO PERFORM

Experience best-in-class performance with over 42 kN of combined forces, superior lift capacity and wide working range.

### Intuitive operation

The boom offset and the auxiliary hydraulics are operated by ergonomic fingertip controls.

## BUILT READY

The EC27D is a perfect match with Volvo attachments for increased versatility, performance and profitability.

### Patented hydraulic filter

Filtration occurs when the tank is filled and before oil returns via the drain lines. The transparent bowl makes checking for oil contamination easy.

### Auto engine shutdown

When inactive for a pre-set amount of time, the engine automatically shuts off, increasing machine resale value, minimizing fuel consumption and service costs.

### Automatic travel speed

The operator can continually drive the machine at high speed. When more traction is needed, the speed is automatically reduced.



# Volvo EC27D in detail

Engine		
Engine	Volvo D1.1A	
Max. power at	r/min	2 400
Gross	kW	15.6
	hp	21.2
According to ISO 9249 / SAE J1995		
Max. torque	Nm	71.4
at engine speed	r/min	1 600
No. of cylinders	3	
Displacement	cm <sup>3</sup>	1 123
Bore	mm	78
Stroke	mm	78.4
Compression ratio	24	

Electrical system		
Voltage	V	12
Battery	V	12
Battery capacity	Ah	70
Alternator	V/Ah	12 / 40

Swing system		
Max. slew speed	r/min	9.4
Max. slew torque	daNm	485

Undercarriage		
Rubber track width	mm	300
Steel track width	mm	300
Bottom/top rollers per side	3 / 1	
Track tension	by grease piston	
Blade (width x height)	mm	1 550 x 312

Weight and Ground Pressure		
Operating weight according to ISO 6016	kg	2 730
Ground pressure (cab)	kPa	27.8
Ground pressure (canopy)	kPa	26.9
Transport weight	kg	2 655
With heated cab		
With direct-fit bucket		
With rubber tracks	mm	300
With short arm	mm	1 200
With fuel tank capacity	%	100
With canopy	-kg	90
With extra counterweight	+kg	100
With long arm	+kg	12
With rubber tracks	-kg	78
Rubber tracks	mm	250

Digging Performances		
Standard bucket width (blade, W/O side cutter)	mm	500
Standard bucket mass	kg	59
Standard bucket rated capacity	l	74
Bucket rotation	°	203
Bucket breakout force (ISO)	daN	2 459
Short arm tearout force (ISO)	daN	1 806
With short arm	mm	1 200
Long arm tearout force (ISO)	daN	1 543
With long arm	mm	1 500

Hydraulic system		
Pump type	Variable displacement, load sensing	
Maximum system flow	l/min	65
Maximum flow for accessories	l/min	50
Maximum pressure for accessories	MPa	25
Maximum flow for 2nd accessory circuit (option)	l/min	23
Maximum operating pressure	MPa	25

Travel System		
Max. drawbar pull	daN	2 500
Max. travel speed low	km/h	2.6
Max. travel speed high	km/h	4.8
Gradeability	°	30

Service Refill		
Fuel tank	l	28
Hydraulic system, total	l	33
Hydraulic tank	l	23
Engine oil	l	5.1
Engine coolant	l	4
Travel reduction unit	l	2 x 0.6

Sound Level		
Interior sound level according to ISO 6396		
LpA	dB(A)	78
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:200		
LwA	dB(A)	93

## LIFTING CAPACITY EC27D

These capacities are given for a machine equipped with a cabin, 300 mm rubber tracks and without a bucket or quick-coupler. The below values are in compliance with ISO standard 10567. They do not exceed 75% of the tipping load or 87% of the hydraulic limit with the machine on firm level ground.

Loads marked with an asterisk (\*) are limited by machine's hydraulic lifting capacity rather than tipping load.

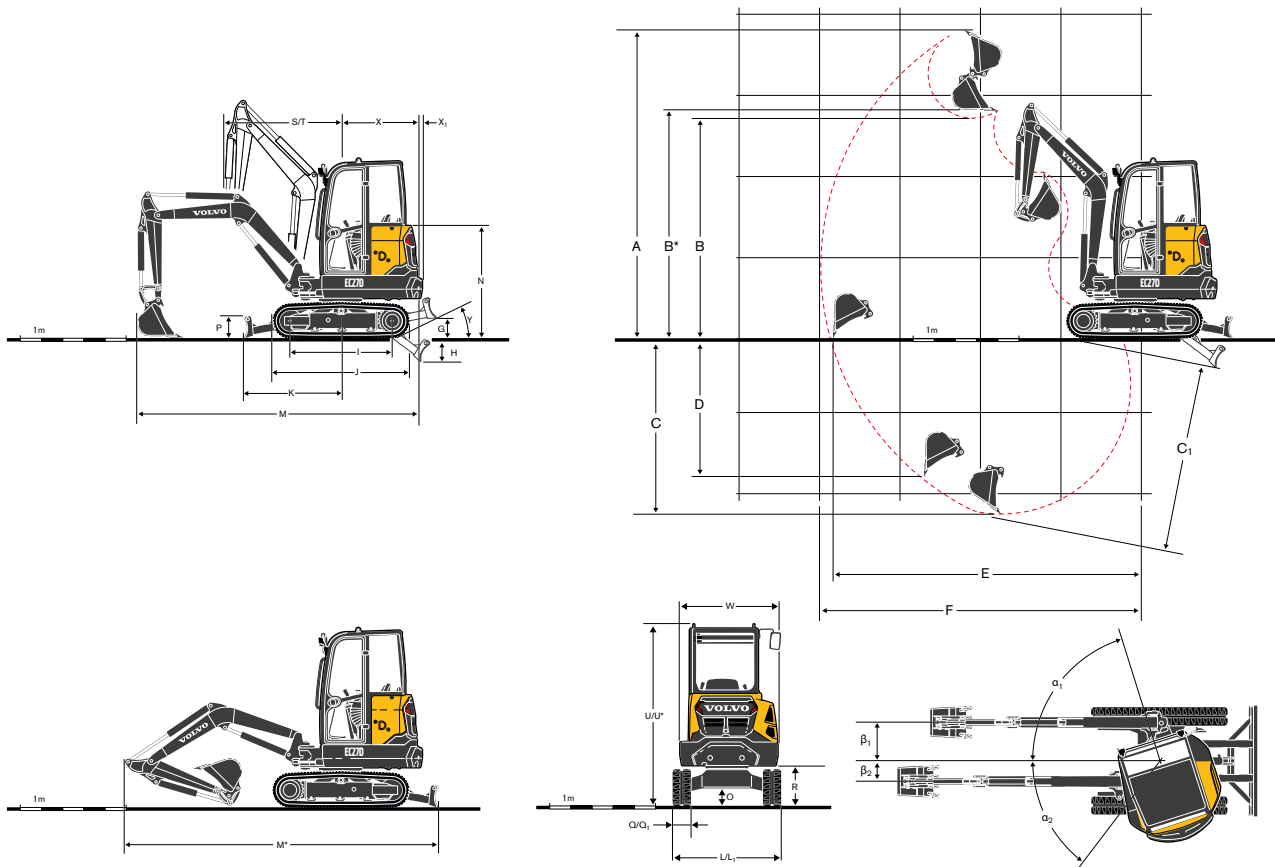
Caution: In accordance with standard EN 474-5, the machine must be equipped to carry out handling operations.

It is the operator's obligation to know and follow the applicable national and local safety regulations.

	Lifting point height		Lifting point radius									Max. m
			2.0 m			3.0 m			Max. reach			
			Along undercarriage, dozer blade up	Along undercarriage, dozer blade down	Across undercarriage	Along undercarriage, dozer blade up	Along undercarriage, dozer blade down	Across undercarriage	Along undercarriage, dozer blade up	Along undercarriage, dozer blade down	Across undercarriage	
Arm: 1 200 mm Counterweight: standard	3	kg	-	-	-	626*	626*	602	593	622*	567	3.1
	2	kg	-	-	-	619	673*	592	456	583*	437	3.6
	1	kg	1 081	1 473*	1 017	591	870*	565	418	617*	401	3.8
	0	kg	1 034	1 804*	972	569	1 024*	543	437	744*	418	3.6
	-1	kg	1 036	1 688*	974	569	967*	543	546	911*	522	3.1
Arm: 1 200 mm Counterweight: + 100 kg additional	3	kg	-	-	-	626*	626*	626*	622*	622*	618	3.1
	2	kg	-	-	-	673*	673*	646	499	583*	479	3.6
	1	kg	1 180	1 473*	1 110	647	870*	618	459	617*	441	3.8
	0	kg	1 134	1 804*	1 065	625	1 024*	596	480	744*	460	3.6
	-1	kg	1 135	1 688*	1 067	625	967*	596	600	911*	573	3.1
Arm: 1 500 mm Counterweight: standard	3	kg	-	-	-	494*	494*	494*	484*	484*	484*	3.5
	2	kg	-	-	-	576*	576*	576*	410	456*	394	3.9
	1	kg	1 111	1 258*	1 046	601	794*	575	380	482*	365	4.1
	0	kg	1 042	1 752*	980	574	991*	548	393	553*	377	3.9
	-1	kg	1 032	1 770*	969	566	1 025*	540	470	777*	450	3.4
Arm: 1 500 mm Counterweight: + 100 kg additional	3	kg	-	-	-	494*	494*	494*	484*	484*	484*	3.5
	2	kg	-	-	-	576*	576*	576*	450	456*	432	3.9
	1	kg	1 210	1 258*	1 139	657	794*	628	418	482*	402	4.1
	0	kg	1 142	1 752*	1 073	630	991*	601	433	553*	415	3.9
	-1	kg	1 131	1 770*	1 063	622	1 025*	593	516	777*	494	3.4



# Specifications



## DIMENSIONS

Description		Unit	EC27D	
Arm		mm	1 200	1 500
A	Maximum cutting height	mm	4 333	4 598
B	Maximum dump height	mm	3 092	3 209
B*	Maximum bucket clearance	mm	3 198	3 280
C	Digging depth	mm	2 486	2 859
C*	Maximum digging depth	mm	2 715	3 088
D	Maximum vertical wall digging depth	mm	1 959	2 601
E	Maximum digging reach at ground level	mm	4 295	4 665
F	Maximum digging reach	mm	4 427	4 786
G	Highest position dozer blade	mm		401
H	Lowest position dozer blade	mm		422
I	Tumbler length	mm		1 440
J	Track length	mm		1 906
K	Dozer blade, maximum reach at ground level	mm		1 365
L	Overall width with 300 mm rubber tracks	mm		1 550
L <sub>1</sub>	Overall width with 250 mm rubber tracks	mm		1 500
M	Overall length	mm	3 933	3 811
M*	Transport length	mm	4 400	4 295
N	Overall height of engine hood	mm		1 571
O	Minimum ground clearance	mm		2 90
P	Dozer blade height	mm		312
Q	Shoe width (rubber)	mm		300
Q <sub>1</sub>	Shoe width (rubber)	mm		250
R	Ground clearance to superstructure	mm		559
S	Front slew radius	mm	1 712	1 759
T	Front slew radius with maximum offset	mm	1 346	1 389
U	Overall height cab	mm		2 535
U*	Overall height canopy	mm		2 505
W	Overall width of superstructure	mm		1 340
X	Tail slew radius	mm		1 080
X <sub>1</sub>	Additional counterweight overhang	mm		75
Y	Angle of approach	°		31
Z	Dozer blade width	mm		1 550
α <sub>1</sub>	Maximum boom swing angle to the left	°		72.5
β <sub>1</sub>	Maximum boom offset to the right	mm		542
α <sub>2</sub>	Maximum boom swing angle to the right	°		53
β <sub>2</sub>	Maximum boom offset to the left	mm		279

1: Option

# Equipment

## STANDARD EQUIPMENT

### Engine

Low emission, water-cooled, Volvo 3-cylinder diesel engine, meeting EPA Tier 4 environmental regulations.

Engine restart prevention system. Starter motor is protected against ignition when engine is already running.

Dry-type single element air filter.

Plastic fuel tank with drain plug.

Protective strainer on the fuel suction pipe inside the tank.

Water separator.

Translucent fuel filter.

### Electric/Electronic control system

Maintenance free battery.

IP67 protected electrical system and high quality connectors.

Protected battery cut-off switch.

In-cab 12V power socket.

### Drivetrain

Axial piston hydraulic motors equipped with an epicyclic reduction gears.

Automatic two speed travel.

Bottom flanged rollers lubricated for life.

Grease tensioning wheel lubricated for life.

### Swing system

Radial piston hydraulic motor with direct engagement on the ball internal crown wheel (no reduction gears).

Integrated shockless valve.

Automatic multi-disc spring applied hydraulic released slew brake.

Centralized and remote lubrication of crown wheel & ball bearing.

### Undercarriage

"X" shape, box welded fabricated frame with sloping side members.

2 Tie-down points on the dozer blade.

2 Tie-down points on the frame

2 lifting points on the frame.

Sturdy removeable protecting covers for track motors and slew system.

400HB weld-on edge on dozer blade.

### Hydraulic system

Plastic tank with drain plug.

Variable displacement, load-sensing piston pump.

Closed centre flow-sharing main control valve.

Cushoning on cylinders:

Boom up

Arm out

Large tiltable oil cooler.

Patented filtering and filling element.

Double-acting hydraulic circuit for accessories.

### Digging Equipment

Monobloc box welded fabricated boom.

Boom cylinder rod protection.

Integrated lifting point on the boom.

Monobloc box welded arms with casted ends.

Long-life steel bushings.

Hardened, pre-lubricated and corrosion resistant pins.

50 hours greasing intervals.

### Cab

Certified FOPS level 1 on top (Falling Object Protective Structure).

Certified TOPS (Tip-Over Protective Structure).

Certified ROPS (Roll-Over Protective Structure).

Cushioned operator station.

Large door access.

Large and roomy uncluttered floor.

Gas-strutt assisted front window opening.

Full opening front bay with in-cab storage for the front lower window.

Front windscreen wiper and washer nozzle.

Right hand side sliding window.

Flat toughened glass.

Heating systems with in-cab adjustment of temperature and air flow level.

Multiple adjustable air vents.

Filtered air inlet.

Toolbox with integrated storage for operator's manual and lockeable door.

Cab inside light.

Seat-belt with warning indicator.

Right rear-view mirror.

Two working lights on top front.

Cup holder.

Phone holder.

## STANDARD EQUIPMENT

### Canopy

Certified FOPS level 1 on top (Falling Objects Protective Structure).

Certified TOPS (Tip-Over Protective Structure).

Certified ROPS (Roll-Over Protective Structure).

Cushioned operator station.

Large and roomy uncluttered floor.

Left hand-rail access.

Seat-belt with warning indicator.

Right rear-view mirror.

One working light on the top front.

Toolbox with integrated storage for operator's manual and lockeable door.

Phone holder.

### Machine controls

Finger tip control for boom offset.

Finger tip control for auxiliary circuit.

Breaker toggle switch on right joystick.

Automatic locking device for pilot controls and travel levers when the left console is raised.

Engine starting safety device: the left console must be raised to operate the starter.

Pressure accumulator to lower the equipment on the ground when the engine is switched off.

High torque / automatic two speed change over switch on the dashboard.

High speed toggle switch on the dozer blade lever.

Large travel pedals.

### Instrumentation and monitoring

Permanent digital hour meter.

Water temperature and fuel level gauges.

Warning lights for hydraulic filter and air filter restriction.

Self-acting emergency engine shutdown. Prevents failures in case of coolant overheating or too low engine oil pressure.

Several warning lights, coupled to an audible signal, in the event of malfunction (overheating, drop in oil pressure, low battery voltage...)

### Official approval

Machine conforming to European directive 2006/42/EC.

Noise emissions in the environment conforming to directive 2000/14/EC.

Hand Arm Vibrations - Whole Body Vibrations compliant with directive 2002/44/EC.

Electromagnetic compatibility (EMC) conforming to European directive 2004/108/EC and its amendments.

Object handling device conforming to EN 474-1 and EN 474-5 standards.

FOPS on top level 1 conforming to ISO 10262 standard.

TOPS conforming to ISO 12117 and EN 13531 standards.

ROPS conforming to ISO 3471-1 and / SAE J1040 standards.

OPG 1 conforming to ISO 10262 standard (when equipped).

OPG 2 conforming to ISO 10262 standard (when equipped).

## STANDARD AND OPTIONAL EQUIPMENT

• = Standard; ◦ = Option

Machine standard and optional equipment may differ depending on local setup.

### Engine

Engine auto idling ◦

Engine auto shut-down with time adjustment ◦

Dual stage air filter ◦

### Operator environment

Canopy ◦

Cab with heater ◦

Vinyl or textile seat, low backrest and standard seat belt ◦

Vinyl or textile seat, lumbar adjustment, high backrest and retractable seat belt ◦

High visibility 2" orange seatbelt ◦

3" or 75mm black retractable seat belt ◦

High visibility orange entrance foot step ◦

Storage box ●

Additional lockeable storage box (behind the seat) ◦

ISO / SAE control pattern change ◦

Travel alarm ◦

Radio preparation (cab) ●

Radio, AUX, USB, Bluetooth ◦

Anti-theft, code lock ◦

Anti-theft, coded key ◦

Digital hourmeter ●

Cupholder (cab only) ●

Phone holder ●

## STANDARD AND OPTIONAL EQUIPMENT

• = Standard; ○ = Option

Machine standard and optional equipment may differ depending on local setup.

### Machine exterior

Right rearview mirror	●
Left rearview mirror	○
Protected worklight on the boom	○
Rear worklight	○
Rotating beacon, halogen	○
Warning beacon, flashing LED	○
Halogen worklights	○
LED worklights	○
Additional counterweight	○
Front canopy guard (OPG1)	○
Severe-duty guards for cab or canopy (OPG2, front & top)	○
Several level of paint customisation (RAL specifications) to match with your corporate identity	○

### Undercarriage

250mm rubber tracks	○
300mm rubber tracks	○
Standard dozer blade with 400 HB weld-on edge	●

### Hydraulic system

Proportional finger tip control for boom offset and accessories	○
On / Off finger tip control for boom offset and accessories	○
Accessory flow adjustment	○
Secondary relief valves for auxiliaries	●
Hammer / shear valve	○
Hydraulic drain for accessories	○
Breaker and clamshell auxiliaries	○
Second accessory circuit	○
Flat face hydraulic quick couplings	○
Single acting circuit for hydraulic quick couplers	○
Double acting circuit for hydraulic quick couplers	○
Boom & arm safety lifting valves with overload indicator	○
Boom, arm and dozer blade safety lifting valves with overload indicator	○
Safety valve certification	○
Mineral hydraulic oil VG46	○
Bio hydraulic oil VG46 (PANOLIN®)	○
Mineral hydraulic oil VG68	○
Mineral hydraulic oil VG32	○
Bio hydraulic oil VG32 (PANOLIN®)	○

## STANDARD AND OPTIONAL EQUIPMENT

• = Standard; ○ = Option

Machine standard and optional equipment may differ depending on local setup.

### Digging Equipment

Short arm 1 200mm	○
Long arm 1 500mm	○

### Service and maintenance

In-cab air filter clogg warning lamp	●
In-cab engine overheating warning indicator	●
Tool kit	○

### Attachments

Volvo quick coupler mechanical (pin-on)	○
Extra pin kit	○
Lehnhoff® Quick Coupler Mechanical (MS03)	○
S-type hydraulic quick coupler (S40)	○
General purpose buckets (250mm / 34L up to 750mm / 119L)	○
Aggressive cut buckets (350mm / 50L or 550mm / 95L)	○
Fix ditching buckets (1 200mm / 125L or 1 300mm / 141L)	○
Tilttable ditching buckets (1 200mm / 125L)	○
Hydraulic breaker	○

### Telematics

Care Track	○
------------	---

## SELECTION OF VOLVO OPTIONAL EQUIPMENT

### LED lights and beacon



### Automatic engine shutdown



### OPG1 guards



### Specific colours



### Anti-theft key



### Radio / Hands-free phone function



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)