

Volvo Construction Equipment
Building Tomorrow



ECR35D

Volvo Compact Excavators 3.5 t 31 hp



Short swing, big power

The ECR35D short swing radius machine is designed to work with power and precision in tight spaces, improving safety and performance in all applications. Featuring a comfortable cab, excellent hydraulics, easy-to-use controls and outstanding serviceability, you will achieve a lot with this small machine.

Optimized efficiency

For lower costs, increased productivity and maximum uptime a number of efficient features combine on the ECR35D. ECO mode allows you to choose the right machine setting for the job at hand for impressive fuel efficiency. Robust design and quality digging equipment delivers durability and long term machine value. Auto idle and auto engine shut down reduce noise disturbance, fuel consumption, maintenance costs and slow down depreciation of your machine.



Superior serviceability

The ECR35D is built to ensure servicing is safe, quick and easy, featuring easy service access with wide-opening hoods, centralized lubrication and ground-level greasing points. The patented multifunction transparent hydraulic filter and extended greasing intervals of 50 hours, enhance machine availability and uptime.



Short swing radius

This compact excavator is designed and built to work in tight spaces and can be used on more jobsites while reducing risk of damage to the machine and its surroundings. Short swing radius design and boom cylinder position on the left make the ECR35D the number one choice for working in confined areas. Slew and offset movements are controlled simultaneously for easy and fast positioning of the machine.



Easy to use

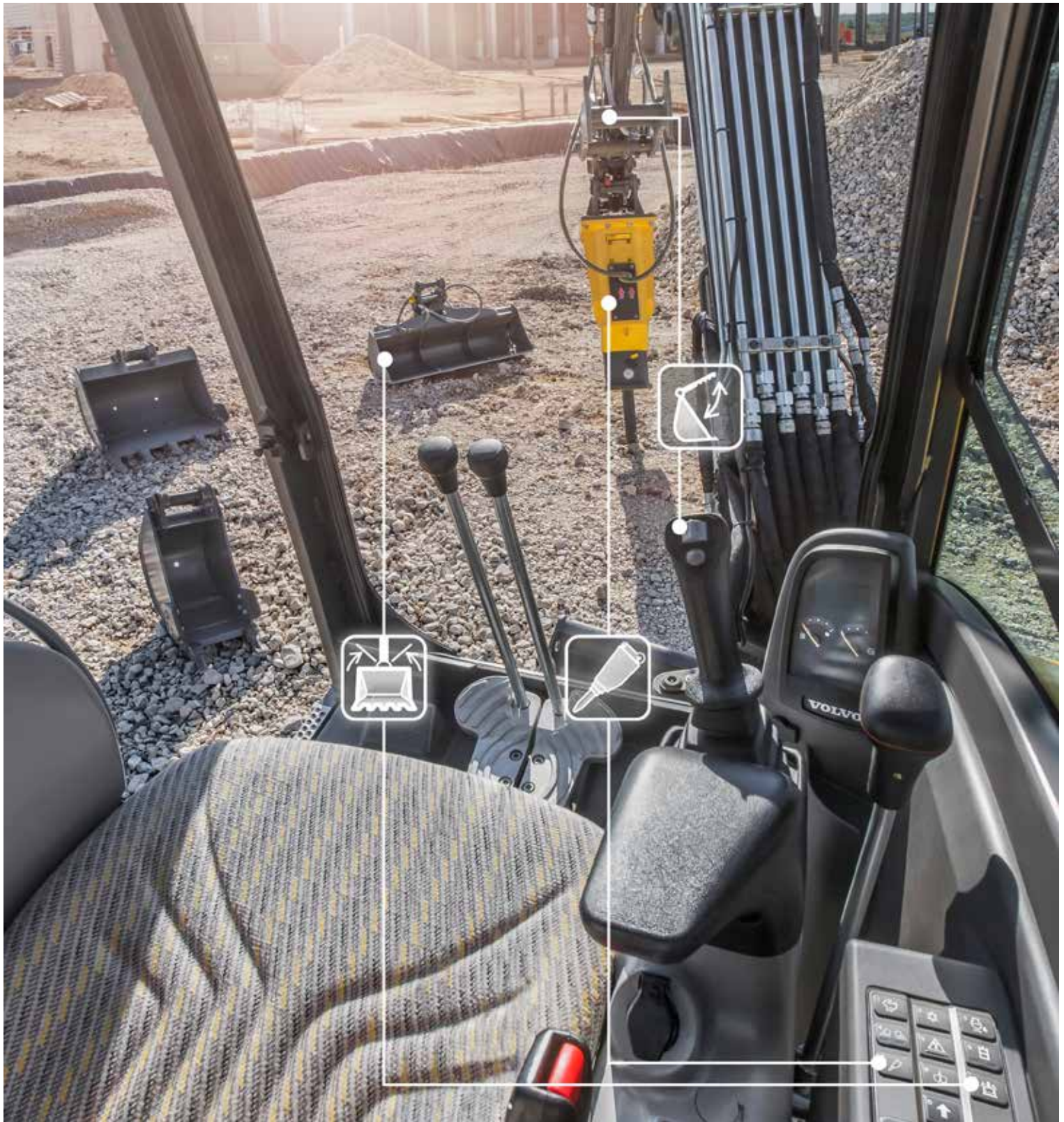
The machine's state-of-the-art hydraulic system is perfectly matched to the Volvo engine delivering high performance, fast response times and smooth operation. The ergonomic, comfortable controls are easy to understand and make it simple to switch between operators. Responsive fingertip controls enhance ease of operation, reduce fatigue and improve fluency.





OPERATOR ENVIRONMENT

Operate in a best-in-class cab for superior operator comfort and less fatigue. The ECR35D is equipped with a spacious operator environment offering excellent all-around visibility and an adjustable suspended seat and console. Most machine functions and settings can be quickly accessed through keypad and monitor for maximum control of your machine.



BUILT READY

Get the most out of your machine. The ECR35D is a perfect match with Volvo attachments allowing you to change hydraulic settings directly and easily from the keypad. For increased versatility and uptime, Volvo has a durable range of attachments so you can access more applications and effectively perform a variety of jobs.

More than a machine

Tailored to your business and operations, choose from a wide range of Volvo attachments and Customer Solutions to improve your performance, productivity and versatility. Volvo offers a complete range of robust attachments for all working conditions and can offer a long-term partnership, protect your revenue and provide a full range of services using Genuine Volvo parts, delivered by passionate people.

Quick Couplers

The mechanical and hydraulic universal quick couplers allow attachments to be changed quickly and efficiently. The hydraulic quick coupler's design allows it to be used for matched Volvo attachments as well as a broad range of offerings from different brands.



Advanced attachment solutions

The machine is compatible with a range of hydraulic attachments, including breaker and tiltable ditching bucket for more advanced and specialist applications. Available from the factory or aftermarket, do not hesitate to contact your local Volvo dealer and benefit from leading expertise and advanced attachment solutions.



Dealer support

For less downtime and expert care, Volvo proactively respond to your requirements faster and fully support your service and maintenance needs through its local workshops and on-site service vans. Your attentive Volvo dealer offers professional expertise and preventative maintenance solutions to keep you working and ensure more uptime.



Genuine Volvo Parts

Our attention to detail is what makes us stand out and our leading parts availability ensures maximum uptime of your machine. For a long life, parts are extensively tested and approved because every part is vital for machine longevity and uptime.



Short swing, big power

Anti-theft system

To reduce the risk of theft, a code can be entered through the keypad to start the machine. It can be changed via the machine management system.

Automatic engine shutdown

This function automatically turns the engine off to reduce fuel consumption and cut engine operating hours when the machine is inactive for a pre-set amount of time.

Short swing radius

Short front and rear radius ensures safe and easy operation within a confined space.

BUILT READY

Volvo's durable attachments have been purpose-built to deliver maximum productivity and long service life in combination with Volvo machines

In-track boom swing

The swing post and cylinder stay within the tracks when in an offset position, avoiding the risk of damage to your machine when working alongside obstacles.

50 hour greasing interval

The greasing interval is 50 hours – therefore there is no need to re-grease between jobs.



Automatic travel speed

Automatic two speed travel allows the operator to continually drive the machine at high speed. Speed is automatically reduced when traction is needed.

OPERATOR ENVIRONMENT

The industry-leading, spacious Volvo FOPS1 on top, TOPS and ROPS cab boasts all around visibility, ergonomically positioned controls and excellent vibration and noise insulation.

ECO mode

By simply pressing a button, the unique Volvo ECO mode reduces fuel consumption by up to 10%.

Suspended seat and console

The multi-adjustable seat and console are mounted on the same suspension and therefore move together – providing excellent shock and vibration absorption.

Service access

The side position of the engine together with two, wide-opening hoods ensures safe and easy access to all components and service check points from ground level.

Patented hydraulic filter

Filtration occurs when the tank is filled or topped up and before the oil returns via the drain lines. The transparent bowl enables easy oil level and contamination checks.

Customer Solutions

Volvo provides the right solutions throughout the entire life cycle of your machine to lower total cost of ownership.



Volvo ECR35D in detail

Engine		
Engine		Volvo D1.8A
Max. power at	r/min	2 200
Gross	kW	22.8
	hp	31
Gross power according to ISO 2534		
Max. torque	Nm	112
at engine speed	r/min	1 600
No. of cylinders		3
Displacement	cm ³	1 830
Bore	mm	87
Stroke	mm	102.4
Compression ratio		20.5

Electrical system		
Voltage	V	12
Battery	V	1 x 12
Battery capacity	Ah	74
Alternator	V/Ah	12/60

Swing system		
Max, slew speed	r/min	9
Max, slew torque	daNm	810

Undercarriage		
Rubber track width	mm	300
Steel track width	mm	300
Bottom/top rollers per side		4/1
Track tension		by grease piston
Blade (width x height)	mm	1 780 x 368

Travel System		
Max, drawbar pull	daN	3 100
Max. travel speed low	km/h	2.7
Max. travel speed high	km/h	4.5
Gradeability	°	20

Sound Level		
Interior sound level according to ISO 6396		
L _{pA}	dB	78
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
L _{wA}	dB	95

Hydraulic system		
Pump type		Variable displacement piston pump
Maximum system flow	l/min	103
Maximum flow for accessories	l/min	65
Maximum pressure for accessories	MPa	22
Maximum flow for 2nd accessory circuit (option)	l/min	23
Maximum operating pressure	MPa	26

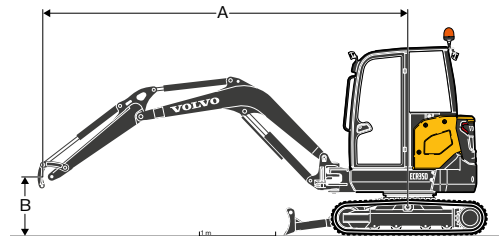
Digging Performances		
Standard bucket width (blade, W/O side cutter)	mm	600
Standard bucket mass	kg	90
Standard bucket rated capacity	l	114
Bucket rotation	°	198
Bucket breakout force (ISO)	daN	3 072
Short arm tearout force (ISO)	daN	2 066
With short arm	mm	1 250
Long arm tearout force (ISO)	daN	1 819
With long arm	mm	1 500

Weight and Ground Pressure		
Operating weight according to ISO 6016	kg	3 520
Ground pressure (cab)	kPa	32.7
Ground pressure (canopy)	kPa	31.4
Transport weight	kg	3 445
With heated cab		
With direct-fit bucket		
With rubber tracks	mm	300
With short arm	mm	1 250
With fuel tank capacity	%	100
With thumb	+kg	64
With canopy	-kg	135
With extra counterweight	+kg	170
With long arm and additional counterweight	+kg	180
With steel tracks	+kg	180
Steel tracks	mm	300

Service Refill		
Fuel tank	l	64
Hydraulic system, total	l	62
Hydraulic tank	l	32
Engine oil	l	7
Engine coolant	l	7
Travel reduction unit	l	2 x 0.7

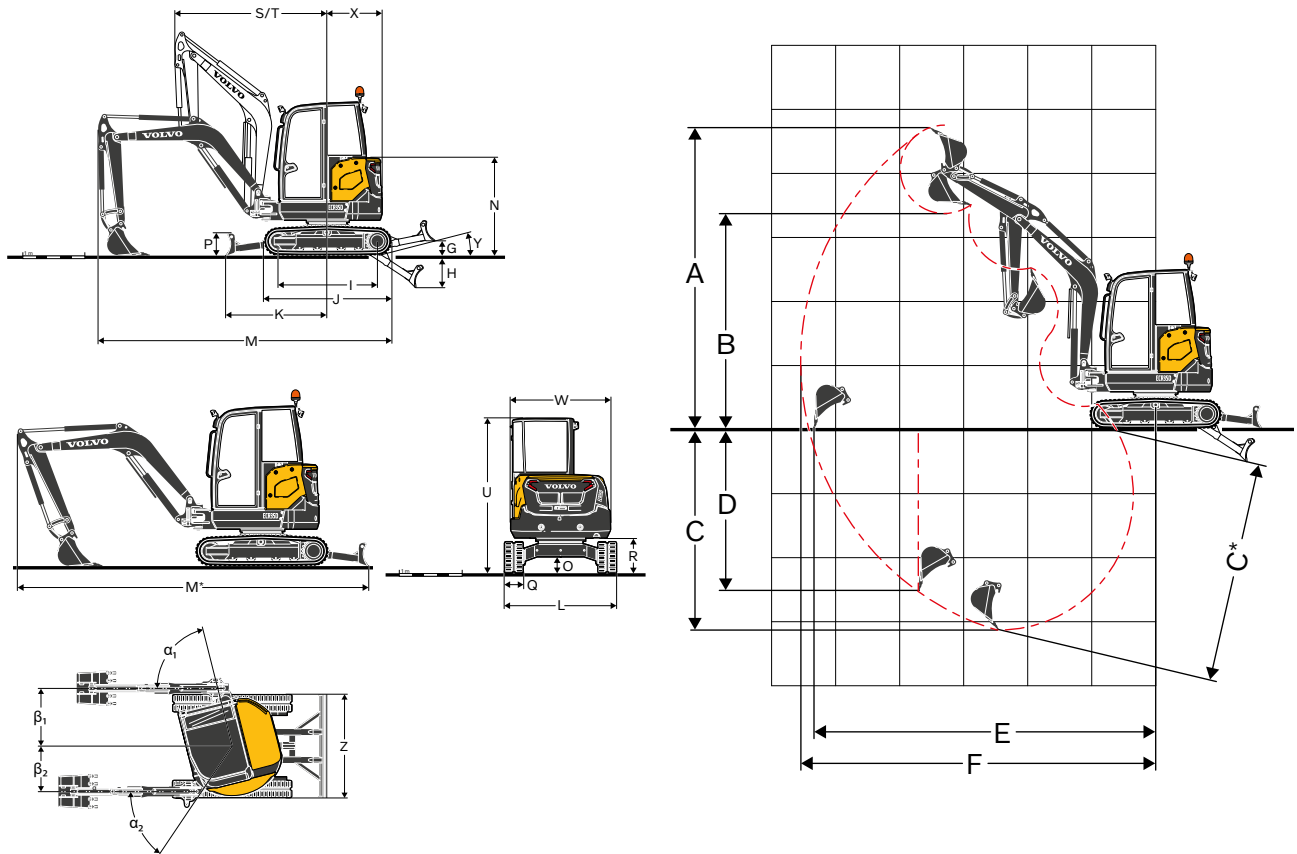
LIFTING CAPACITY ECR35D

These capacities are given for a machine equipped with a cabin, 300mm 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 (B) m		Lifting point radius (A)								
			2.0 m		3.0 m		4.0 m		Max. reach		Max. m
Arm: 1 250mm + Dozer blade up	3	kg							479	470	3.95
	2	kg			730	712	461	453	388	381	4.43
	1	kg			669	652	440	432	359	353	4.57
	0	kg			635	619	424	416	370	364	4.41
	-1	kg	1 220	1 167	632	616			438	430	3.91
	-2	kg	1 268	1 213					753	732	2.76
Arm: 1 500mm + Additional counterweight + Dozer blade up	3	kg					537	526	485	475	4.23
	2	kg					526	514	406	398	4.68
	1	kg			766	744	502	491	379	371	4.81
	0	kg	1 203*	1 203*	721	700	481	470	388	381	4.66
	-1	kg	1 364	1 300	712	691	476	465	448	438	4.19
	-2	kg	1 405	1 339	733	712			668	650	3.21
Arm: 1 250mm Dozer blade down	3	kg							760*	470	3.95
	2	kg			901*	712	793*	453	750*	381	4.43
	1	kg			1 368*	652	939*	432	805*	353	4.57
	0	kg			1 628*	619	1 049*	416	918*	364	4.41
	-1	kg	2 706*	1 167	1 570*	616			1 007*	430	3.91
	-2	kg	1 869*	1 213					1 101*	732	2.76
Arm: 1 500mm + Additional counterweight + Dozer blade down	3	kg					648*	526	643*	475	4.23
	2	kg					713*	514	621*	398	4.68
	1	kg			1 244*	744	877*	491	653*	371	4.81
	0	kg	1 203*	1 203*	1 577*	700	1 018*	470	760*	381	4.66
	-1	kg	2 321*	1 300	1 603*	691	1 015*	465	927*	438	4.19
	-2	kg	2 320*	1 339	1 200*	712			1 037*	650	3.21

Specifications



DIMENSIONS

Description	Unit	ECR35D	
		1250	1500
Arm	mm		
A	mm	4 497	4 640
B	mm	3 147	3 290
C	mm	2 785	3 035
C*	mm	3 173	3 420
D	mm	2 251	2 494
E	mm	5 131	5 370
F	mm	5 261	5 497
G	mm		370
H	mm		525
I	mm		1 604
J	mm		2 055
K	mm		1 648
L	mm		1 780
M	mm	4 609	4 504
M*	mm	5 435	5 380
N	mm		1 573
O	mm		285
P	mm		368
Q	mm		300
R	mm		557
S	mm	2 394	2 418
T	mm	1 869	1 889
U	mm		2 481
W	mm		1 575
X	mm	885	970
X ¹	mm	85	(incl.)
Y	°		25
Z	mm		1 780
α ₁	deg		76
β ₁	mm		995
α ₂	°		56
β ₂	mm		787

¹: Option

Equipment

STANDARD EQUIPMENT

Engine

- Low emission, direct injection, water-cooled, Volvo 3-cylinder diesel engine.
- 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.

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.

Electric / Electronic control system

- Maintenance free battery.
- IP67 protected electrical system and high quality connectors.
- Removable battery cut-off switch.
- In-cab 12V power socket.

Swing system

- Radial piston hydraulic motor with direct engagement on the ball internal crown wheel (no reduction gears).
- Integrated shockless valve.
- Automatic multi-disc 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 Integrated lifting points.
- Sturdy removeable protecting covers for track motors and slew system.
- 400HB weld-on edge on dozer blade

Hydraulic system

- Large hinged and key-locked access panel.
- Variable displacement, load-sensing piston pump.
- Closed centre flow-sharing main control valve.
- Cushoning on cylinders:
 - Boom up
 - Arm out
- Patented filtering and filling element.
- Single layer cooling system.
- Double-acting hydraulic circuit for accessories.
- Hammer / shear valve.
- Plastic tank with drain plug.

Canopy

- FOPS level 1 on top (Falling Objects Protective Structure)
- TOPS (Tip-Over Protective Structure)
- ROPS (Roll-Over Protective Structure)
- Cushionned operator station
- Large and roomy uncluttered floor
- Left hand-rail access
- Seat-belt with warning indicator

Cab

- FOPS on top level 1 (Falling Object Protective Structure).
- TOPS (Tip-Over Protective Structure).
- 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.
- Heating systems.
- Multiple adjustable air vents.
- Filtered air inlet.
- Cab inside light.
- Seat-belt with warning indicator.
- Two working lights on top front of the cab.

Digging equipment

- Monobloc box welded boom.
- Boom cylinder rod protection.
- Integrated lifting point on the boom.
- Monobloc box welded arm.
- Long-life steel bushings.
- Hardened, pre-lubricated and corrosion resistant pins.
- 50 hours greasing intervals.

STANDARD EQUIPMENT

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 button on the keypad.
- High speed toggle switch on the dozer blade lever.
- Large travel pedals.

Instrumentation and monitoring

- 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.

EQUIPMENT

- = Standard
- = Option

	ECR35D	
	Basic	Standard
Operator environment		
Canopy	○	○
Cab with heater	○	○
Cab with heater and air conditioning		○
Vinyl or textile seat, with mechanical suspension, low-back seat and 2" seat belt	○	○
Vinyl or textile seat, height adjustable, with mechanical suspension, high back and 2" or 3" retractable seat belt	○	○
Storage box	○	○
Cab roof		○
ISO / SAE control pattern change (in-cab electric switch)	○	○
Travel alarm	○	○
Radio preparation (cab)	•	•
Radio, AUX, USB, Bluetooth		○
Anti-theft device	○	○
Digital hourmeter	•	•
Extra hour meter (mechanical,)	○	○
Cupholder.		○
Machine exterior		
Right rearview mirror	○	○
Left rearview mirror	○	○
Protected worklight on the boom	○	○
Rear worklight	○	○
Rotating beacon	○	○
Choice of halogen or LED lights and beacon	○	○
Additional counterweight	○	○
Front canopy guard (OPG1)	○	○
Severe-duty guards for cab or canopy (OPG2, front and top)	○	○
Several level of paint customisation (RAL specifications) to match with your corporate identity	○	○

EQUIPMENT		
• = Standard ○ = Option		
	ECR35D	
	Basic	Standard
Digging equipment		
Short arm	○	○
Long arm + additional counterweight	○	○
Undercarriage equipment		
300mm rubber tracks	○	○
300mm steel tracks	○	○
Standard dozer blade	•	○
Hydraulic angle blade		○
Hydraulic equipment		
Proportional finger tip control for boom offset		•
On / Off finger tip control for boom offset	•	
Proportional finger tip control for accessories		•
On / off finger tip control for accessories	•	
Accessory flow adjustment with 3 function oriented button and user-defined settings.		•
Secondary relief valves for auxiliaries	•	•
Hydraulic drain for accessories		○
Breaker and clamshell auxiliaries		○
Second accessory circuit		○
Volvo Control System		○
Flat face hydraulic quick couplings	○	○
Single acting circuit for quick couplers	○	○
Double acting circuit for quick couplers	○	○
Boom and arm safety lifting valves with overload indicator	○	○
Boom, arm and dozer blade safety lifting valves with overload indicator	○	○
Float blade	•	•
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®)	○	○

EQUIPMENT		
• = Standard ○ = Option		
	ECR35D	
	Basic	Standard
Engine		
Manual engine control	•	
Digital engine control with two preset engine speed buttons (user adjustable)		•
Engine auto idling with time adjustment		○
ECO mode		•
Engine auto shut-down with time adjustment		○
Dual stage air filter	○	○
Service and maintenance		
In-cab air filter clogg warning lamp	•	•
In-cab engine overheating warning indicator	•	•
Tool kit	○	○
Electronic service reminder		•
V-CADS pro		•
Telematics		
Care Track		○
Attachments		
Volvo quick coupler mechanical (pin-on)	○	○
Volvo hydraulic quick coupler (pin-on)	○	○
Extra pin kit	○	○
Lehnhoff® Quick Coupler Mechanical (MS03)	○	○
Lehnhoff® Quick Coupler Hydraulic (HS03)	○	○
S-type hydraulic quick coupler (S40)	○	○
Steelwrist® Tiltrotators (X04)		○
A choice of fix or tiltable buckets (300mm / 52L up to 1300mm / 150L)	○	○
Bolt-on side cutters	○	○
Hydraulic breaker HB03LN	○	○

SELECTION OF VOLVO OPTIONAL EQUIPMENT

OPG



Auto engine shutdown



Anti theft



Air conditioning



Angle blade



Safety valves



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

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