

VOLVO COMPACT EXCAVATORS
ECR28, ECR38



VOLVO

OUTSTANDING COMFORT WITHIN A SHORT SWING.

Make long working days easier. Try out the Volvo Models ECR28 and ECR38. Short swing radius excavators with a real difference. They turn within the width of their own tracks – ideal for tight job-sites.

Both models have a short swing radius so the counterweight turns within the track width. You can work in confined spaces, eliminating the risk of hitting a wall or obstacle. An obvious result is enhanced safety on congested jobsites.

The spacious cab features an uncluttered floor, with plenty of room for your feet, and a deluxe, adjustable suspension seat, with a high back and armrests to reduce fatigue. There's excellent visibility because of the large glass area on all four sides, the thin cab pillars, the wide windscreen and the low, compact engine cover. Optional exterior rearview mirrors help to further improve visibility and safety.

The instrument panel features gauges, audible alarms and lights and is located within easy view of the operator so he or she can monitor all key machine functions.

Both units feature highly responsive, pilot-assist joystick levers for precise movement. The levers are mounted to the seat for comfort and less operator fatigue. The right joystick lever also has a thumb roller proportional control to operate the auxiliary circuit. This provides precise control of attachments that use double-acting hydraulics – thumbs, augers, swivel attachments, etc. In addition, there's a button on the front of the joystick that sends maximum flow to attachments, such as breakers, that use single-acting hydraulic flow.

The Volvo ECR28 and ECR38 are designed for low noise, both inside and outside of the cab. The operator's platform is mounted on rubber bushings to help reduce noise and vibration, and there is high-performance soundproofing foam that helps further insulate against noise. In addition, the quiet, new-generation Volvo engine has an extremely efficient exhaust system. As a result, the low sound levels help reduce operator fatigue and increase productivity.



- Short tail swing offers the ultimate maneuverability.



- Spacious cab improves comfort, visibility, and productivity.



- Uncluttered floor offers plenty of legroom for better comfort.



- Excellent performance even in tight jobsites.
- Controls provide easy, precise movement.
- Wide cab, deluxe seat and 360° visibility.



OUTSTANDING PERFORMANCE AND ENVIRONMENTAL CARE.

The ECR28 and ECR38 provide no-compromise performance when using a Volvo short swing radius machine. Both models offer the same care and respect for the environment that you expect from every Volvo product.

The model ECR28 and ECR38 are short swing radius machines, perfect for use on tight jobsites. They offer more productivity, increased machine capabilities and improved safety.

Both machines have new-generation Volvo diesel engines that provide excellent performance, low noise, miserly use of fuel and low-emission exhaust. Both models provide low exhaust emissions complying with the latest standards – US EPA Tier II.

To work more efficiently, the ECR28 and ECR38 feature an auto-idling system that lowers the engine speed to idle when the operator controls are not used for five seconds. The system returns the engine to the pre-selected throttle speed as soon as the operator moves any control. The system can be disabled when you need to warm the engine.

The thumb roller control for auxiliary hydraulics enables the operator to proportionally meter the flow to the attachment for more precision.

The load sensing hydraulic system is the best technology available, providing simplicity and efficiency. The speed of the hydraulic movements depends on the position of the power-assisted, multi-function joystick levers, regardless of load and number of simultaneous cylinder movements. The Volvo system supplies only the pressure and flow to meet the demand. Smooth and precise operation is a reality.

The operator can reposition the boom and arm while traveling, with no change in speed or direction of the tracks for precise maneuvering in tight areas.

The ECR28 and ECR38 also feature impressive bucket and dipper digging forces, allowing them to power through the toughest working conditions.



- New Volvo engine offers excellent performance.



- Auto-idle reduces fuel consumption and noise.



- Impressive digging force.



- Proportional control of attachments.
- Excellent reach to reduce machine positioning.
- Load-sensing hydraulics for precise movement.



ENDURING QUALITY THAT PROTECTS MAN AND MACHINE.

The Volvo ECR series is built with reliability and durability throughout. They will give you years of reliable work and retain a high resale value. Safety is built in to protect both the operator and others working near the machine. They're also easy to service to help ensure a long, productive life.

The engine is located on the side of the machine, allowing Volvo engineers to design a large operator's area for your comfort, and give you a large hood that can be opened wide for complete and unobstructed access to all routine service points, including filters and fluid levels. The fuses are grouped together in the engine compartment for easy-access and protected in a dust- and damp-proof box.

There are many high-quality features to ensure a long life, such as bucket cylinder hoses that are protected on the inside of the dipper. The O-Ring Face Seal (ORFS) hydraulic connectors on all hoses and tubes provide leak-free joints. The O-Rings provide excellent resistance to pressure peaks, vibrations and twisting. The wiring looms and connectors meet high standards, protecting the cables from their harsh operating environment.

The cab door can be locked open, and in this position it is within the swing radius of the chassis to prevent damage.

As with all Volvo products, the units offer the best in safety features to help protect the operator. Volvo cabs and canopies come standard with a FOPS 1, ROPS and TOPS safety structure to prevent injury from falling objects, rollover or tipover. A retractable safety belt is standard. Its easy, convenient use keeps the operator fully in his or her seat.

Designers listened to you and located the instrument panel where it is easy for the operator to see, making efficient operation a reality.

The laminated windscreen is made of two pieces of glass bonded together with a clear plastic sheet in between. If the windscreen breaks, it stays in one piece.

All machine controls are locked out when the console is raised to help prevent the risk of an accident when the operator is getting into or out of the cab.



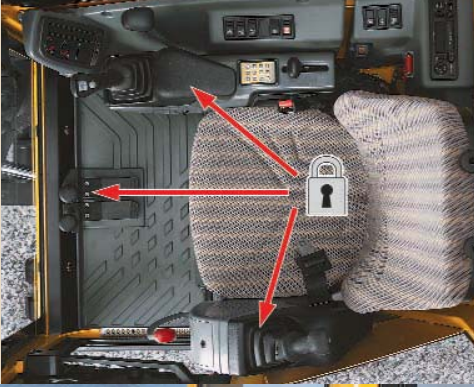
- Open door is protected within the swing radius of the chassis.



- Laminated windscreen increases operator safety.



- High-quality electrical and hydraulic connections.



- All controls lock out when console is raised.
- Instrument panel provides clear view of functions.
- Side engine hood opens wide for easy service.



SPECIFICATIONS – ECR28

Engine

Low-emission, water-cooled, Volvo 3-cylinder diesel engine, meeting US EPA Tier II regulations and equipped with an automatic return-to-idle system.

Model	Volvo D1.2
Gross power, rated (ISO 9249)	19.3 hp (14,4 kW) @ 2,200 rpm
Power, installed (ISO 9249)	18.3 hp (13,5 kW) @ 2,200 rpm
Displacement, total	68 in³ (1116 cc)
Maximum torque	48.4 ft-lbf (65,6 Nm) @ 1,600 rpm
Bore x stroke	2.99" x 3.23" (76 mm x 82 mm)

Electrical system

Battery capacity	12 V - 65 Ah - 600 CCA
Alternator rating	12 V - 40 A
Starter motor output	12 V - 1.1 kW

Hydraulic system

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

Control	pilot-operated joystick controls
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Variable-displacement, load-sensing pump for all the equipment and travel circuits:

Maximum flow	17 gpm (64,4 l/min)
Maximum operating pressure	3,046 psi (210 bar)

Gear pump for pilot circuit:

Maximum flow	3.78 gpm (13,8 l/min)
Maximum operating pressure	508 psi (35 bars)

Double-acting auxiliary hydraulic circuit (for attachments):

Maximum adjustable flow	11.9 gpm (45 l/min)
Maximum operating pressure	3,046 psi (210 bars)

End-of-stroke cushion:	Boom Cylinder Rod Extension
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Bucket performance

Digging force – Bucket	4,429 lbf (1970 daN)
Digging force – Dipper	3,282 lbf (1460 daN)

Swing system

Turntable Swing provided by direct-drive, radial piston motor (no reduction gear) with remote lubrication:

Swing speed	10 rpm
Turntable braking	automatic multi-disc brake

Undercarriage

The undercarriage uses fabricated box steel sections that carry the loads from the turntable to the track frames in an "X" pattern for more strength and rigidity. The track frames are built with sides that slope down to more easily shed mud and dirt from the tracks. The track rollers and the tensioning wheels are lubricated for life.

Bottom/top rollers per side	3 / 1
Track width	10" (250 mm)
Track tensioning	grease piston
Blade (width x height)	61" x 13.4" (1550 x 340 mm)

Drivetrain

Each track driven by a 2-speed, axial-piston hydraulic motor and planetary reduction gear.

Travel speed (low / high)	1.5 mph / 2.4 mph (2,4 km/h / 3,8 km/h)
Max. tractive force	4,946 lbf (2200 daN)

The travel control is automatically locked when the operator raises the left console.

Service fill capacities

Fuel tank	12.9 gal (49 ltr)
Hydraulic tank	4.8 gal (18 ltr)
Hydraulic system, total	9.8 gal (37 ltr)
Engine oil	0.9 gal (3,3 ltr)
Cooling system	1.1 gal (4 ltr)

Weight







Weight and ground pressure with **9.8"** (250 mm) rubber tracks:

	Operating	Transport
Canopy version Weight	6,012 lbs (2700 kg)	5,685 lbs (2584 kg)
Ground pressure	4.8 psi (0,34 kg/cm²)	
Cab version Weight	6,219 lbs (2800 kg)	5,892 lbs (2678 kg)
Ground pressure	5.0 psi (0,35 kg/cm²)	

Load capacities

These capacities are given for a machine without a bucket or quick-release coupling and fitted with rubber tracks and cab.

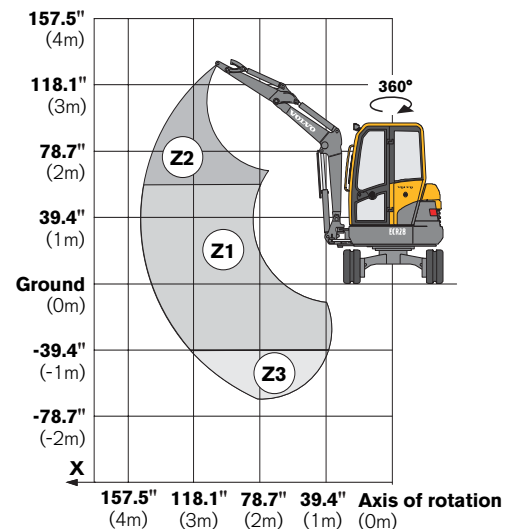
The handling capacity is 75% of the tipping load or 87% of the hydraulic limit.

in (X m)			78.7" (2 m)	118.1" (3 m)	157.5" (4 m)	Maxi
			lbs (kg)	lbs (kg)	lbs (kg)	lbs (kg)
1 360° 	41.3" (1050 mm) 	Z2	-	970 (440)	-	-
		Z1	1,675 (760)	925 (420)	-	675 (305)
		Z3	1,720 (780)	950 (430)	-	-
	51.2" (1300 mm) 	Z2	-	1,005* (445*)	640 (290)	-
		Z1	1,665 (755)	925 (420)	630 (285)	620 (280)
		Z3	1,700 (770)	940 (425)	-	-
2 	41.3" (1050 mm) 	Z2	-	1,060* (480*)	-	-
		Z1	3,540* (1605*)	1,345* (610*)	-	1,270* (575*)
		Z3	3,075* (1395*)	1,655* (750*)	-	-
	51.2" (1300 mm) 	Z2	-	1,005* (455*)	1,115* (505*)	-
		Z1	3,485* (1508*)	1,200* (545*)	1,115* (505*)	1,070* (485*)
		Z3	3,300* (1495*)	1,775* (805*)	-	-

1 - Lifting capacity in total rotation over 360° with the blade raised.

2 - Lifting capacity in front longitudinal position and resting on the blade.

*hydraulic limit



SPECIFICATIONS – ECR38

Engine

Low-emission, water-cooled, direct injection Volvo 3-cylinder diesel engine, meeting Tier II environmental regulations and equipped with automatic return-to-idle system.

Model	Volvo D1.6
Gross power, rated (ISO 9249)	27.6 hp (20,3 kW) @ 2,200 rpm
Power, installed (ISO 9249)	27 hp (19,9 kW) @ 2,200 rpm
Displacement, total	100.2 in³ (1642 cc)
Maximum torque	76 ft-lbf (103 Nm) @ 1,300 rpm
Bore x stroke	3.46" x 3.54" (88 mm x 90 mm)

Electrical system

Battery capacity	12 V - 65 Ah / 600 CCA
Alternator rating	12 V - 40 A
Starter motor output	12 V - 1.7 kW

Hydraulic system

Closed-center, load-sensing hydraulic system providing fuel savings and independent control.

Control	power-assisted hydraulic controls
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Variable-displacement, load-sensing pump for all the equipment and travel circuits :

Maximum flow	24.9 gpm (94,3 l/min)
Maximum operating pressure	3,483 psi (240 bar)

Gear pump for the power assistance circuit:

Maximum flow	4.9 gpm (18,4 l/min)
Maximum operating pressure	508 psi (35 bar)

Double-acting hydraulic circuit (for attachments):

Maximum adjustable flow	15.9 gpm (60 l/min)
Maximum operating pressure	3,483 psi (240 bar)

End-of-stroke cushion:	Boom cylinder Rod end
End-of-stroke cushion:	Dipper Cylinder Piston End

Bucket performance

Digging force – Bucket	6,463 lbf (2875 daN)
Digging force – Dipper	4,305 lbf (1915 daN)

Swing system

Turntable swing provided by direct-drive, radial piston hydraulic motor (no gear reduction) with remote lubrication:

Swing speed	10 rpm
Turntable braking	automatic multi-disc brake

Undercarriage

The undercarriage uses fabricated box steel sections that carry the loads from the turntable to the track frames in an "X" pattern for more strength and rigidity. The track frames are built with sides that slope down to more easily shed mud and dirt from the tracks. The track rollers and the tensioning wheels are lubricated for life.

Bottom/top rollers per side	4 / 1
Track width	11.8" (300 mm)
Track tensioning	grease piston
Blade (width x height)	65" x 14.7" (1650 x 370 mm)

Drivetrain

Each track driven by a 2-speed, axial-piston hydraulic motor and planetary reduction gears.

Travel speed (low / high)	1.7 mph / 2.4 mph (2,7 km/h / 3,9 km/h)
Max. tractive force	6,857 lbf (3050 daN)

The travel control is automatically locked when the operator raises the left console.

Service fill capacities

Fuel tank	12.9 gal (49 ltr)
Hydraulic tank	4.8 gal (18 ltr)
Hydraulic system, total	12.7 gal (48 ltr)
Engine oil	1.85 gal (7 ltr)
Cooling system	1.3 gal (5 ltr)

Weight

Weight and ground pressure with 11.8" (300 mm) rubber tracks:

	Operating	Transport
Canopy version weight	7,355 lbs (3300 kg)	7,000 lbs (3182 kg)
Ground pressure	4.4 psi (0,31 kg/cm²)	
Cab version	7,561 lbs (3400 kg)	7,207 lbs (3276 kg)
Ground pressure	4.6 psi (0,32 kg/cm²)	

Load capacities

These capacities are given for a machine without a bucket or quick-release coupling and fitted with rubber tracks and cab.

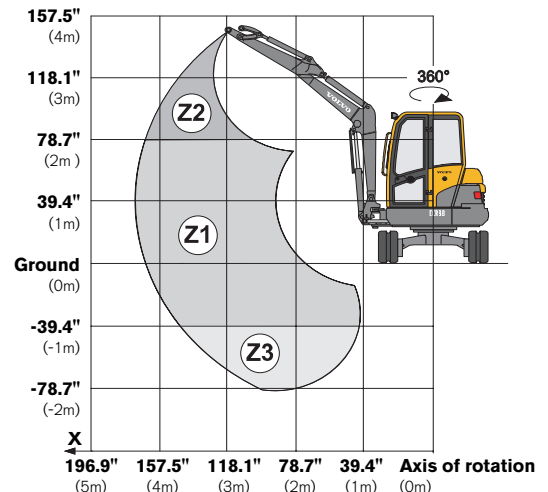
The handling capacity is 75% of the tipping load or 87% of the hydraulic limit.

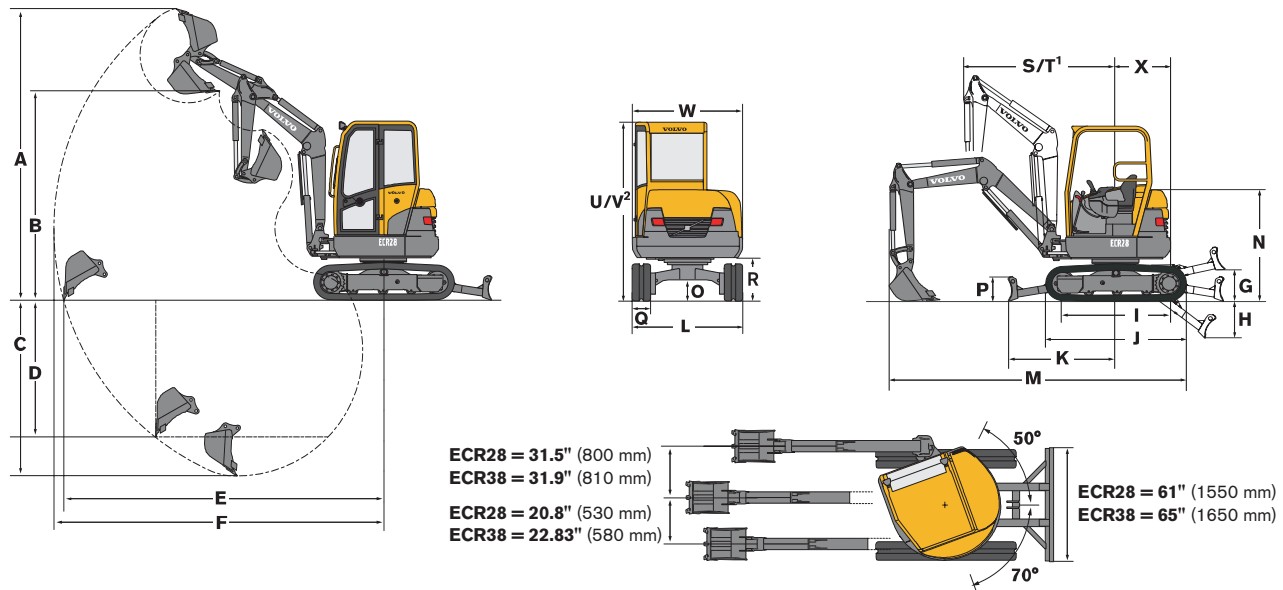
in(X m)			78.7" (2 m)	118.1" (3 m)	157.5" (4 m)	Maxi
			lbs (kg)	lbs (kg)	lbs (kg)	lbs (kg)
1 360°	49.2" (1250 mm)	Z2	-	1,190* (540*)	840 (380)	
		Z1	2,150 (975)	1,180 (535)	795 (360)	715 (325)
		Z3	2,070 (940)	1,125 (510)	-	-
	59" (1500 mm)	Z2	-	1,300* (590*)	825 (375)	
		Z1	2,105 (955)	1,145 (520)	795 (360)	650 (295)
		Z3	2,030 (920)	1,090 (495)	-	-
2	49.2" (1250 mm)	Z2	-	1,290* (585*)	1,410* (640*)	
		Z1	2,975* (1350*)	1,455* (660*)	1,445* (655*)	1,510* (685*)
		Z3	3,185* (1445*)	2,115* (960*)	-	-
	59" (1500 mm)	Z2	-	1,300* (590*)	1,210* (550*)	
		Z1	3,000* (1360*)	1,300* (590*)	1,290* (585*)	1,210* (550*)
		Z3	3,815* (1730*)	1,995* (905*)	-	-

1 - Lifting capacity in total rotation over 360° with the blade raised.

2 - Lifting capacity in front longitudinal position and resting on the blade.

*hydraulic limit





ECR28

Dipper	A	B	C	D	E	F
41.3"	155.5"	111.8"	93.7"	71.7"	170.5"	176"
(1050 mm)	(3950)	(2840)	(2380)	(1820)	(4330)	(4470)
51.2"	161"	116.9"	103.5"	81.1"	180.3"	185"
(1300 mm)	(4090)	(2970)	(2630)	(2060)	(4580)	(4700)

G	H	I	J	K	L	M	N	O
16.9"	19.7"	56.7"	75.2"	57.9"	59.1"	157.5"	59.4"	11"
(430)	(500)	(1440)	(1910)	(1470)	(1500)	(4000)	(1510)	(280)

P	Q	R	S	T ¹	U	V ²	W	X
13.4"	9.8"	22.4"	81.9"	67.3"	96.1"	93.7"	59.1"	29.5"
(340)	(250)	(570)	(2080)	(1710)	(2440)	(2380)	(1500)	(750)

1: Front turning radius with maximum offset

2: Canopy

3: Option 11.8" (300 mm) (rubber)

Buckets ECR28	Width	Weight	Capacity
Standard	10"	101 lbs	1,2 ft ³
	(250 mm)	(46 kg)	(35 l)
	12"	108 lbs	1,3 ft ³
	(300 mm)	(49 kg)	(37 l)
	16"	125 lbs	1,9 ft ³
	(400 mm)	(57 kg)	(55 l)
	18"	139 lbs	2,3 ft ³
	(450 mm)	(63 kg)	(65 l)
	20"	150 lbs	2,6 ft ³
	(500 mm)	(68 kg)	(73 l)
	24"	172 lbs	3,2 ft ³
	(600 mm)	(78 kg)	(91 l)
Ditch	47"	229 lbs	4,2 ft ³
	(1200 mm)	(104 kg)	(119 l)

ECR38

Dipper	A	B	C	D	E	F
49.2"	174.4"	125.6"	107.9"	100"	189.4"	198.4"
(1250 mm)	(4430)	(3190)	(2740)	(2540)	(4810)	(5040)
59.1"	179.5"	131.1"	117.7"	109.8"	202.8"	207.5"
(1500 mm)	(4560)	(3330)	(2990)	(2790)	(5150)	(5270)

G	H	I	J	K	L	M	N	O
14.8"	20.1"	63"	81.5"	63.8"	63.8"	174"	59.8"	11.4"
(375)	(510)	(1600)	(2070)	(1620)	(1620)	(4420)	(1520)	(290)

P	Q	R	S	T ¹	U	V ²	W	X
14.6"	11.8"	22.8"	89.4"	74"	96.1"	94.1"	63.8"	31.9"
(370)	(300)	(580)	(2270)	(1880)	(2440)	(2390)	(1620)	(810)

1: Front turning radius with maximum offset

2: Canopy

Buckets ECR38	Width	Weight	Capacity
Standard	12"	132 lbs	1,3 ft ³
	(300 mm)	(60 kg)	(37 l)
	18"	156 lbs	2,1 ft ³
	(450 mm)	(71 kg)	(59 l)
	24"	189 lbs	3,0 ft ³
	(600 mm)	(86 kg)	(84 l)
	30"	231 lbs	3,9 ft ³
	(750 mm)	(105 kg)	(111 l)
Ditch	51"	255 lbs	5,4 ft ³
	(1300 mm)	(116 kg)	(153 l)

STANDARD EQUIPMENT

Engine

Low-emission (US EPA Tier II) Volvo diesel engine.
Dry-type, Dual-element air filter.
Glow-plug cold start aid.
Fuel filter w/transparent sediment chamber.
Oil sump sheet metal guard.
Automatic return-to-idle system.

Electrical system

Water-resistant electrical connectors (IP67).
Two working lights on cab version.
Working light on the canopy frame.

Hydraulic system

Closed-Center, Load sensing system.
Pilot-operated joystick hydraulic controls.
Joystick pattern-selector valve.
Pilot-operated boom offset control with left control lever.
Steering/Propulsion control by two steering levers equipped with foot pedals.
Single-acting/Double-acting auxiliary hydraulic tubes installed to middle of dipper.
Selector valve to choose single-acting or double-acting hydraulics.
Proportional-flow and full-flow auxiliary hydraulic controls on right joystick lever.

Seat

ECR28: Fabric or vinyl-covered multi-adjustable sprung seat.
ECR38: "Deluxe" fabric or vinyl-covered superior comfort multi-adjustable sprung seat with a high back and fully-suspended consoles.

Cab (cab version)

Cab mounted on rubber mountings.
In-cab heating and ventilation adjustment.
Front window with opening system power-assisted by gas strut.
Radio-ready: antenna and electric wiring installed (location for radio & 2 speakers).
Anti-corrosion cab protection by electrophoretic primer.
Windscreen wiper and washer (front).

Instrumentation and monitoring

Warning lights for hydraulic filter and air filter restriction.
Gauges: water temperature, fuel level.
Hour meter.
Warning lights and Audible alarm: Coolant Temperature and Engine oil pressure.

Digging equipment

ECR28:
78.7" (2000 mm) monobloc boom.
41.3" (1050 mm) dipper.
ECR38:
90.6" (2300 mm) monobloc boom.
49.2" (1250 mm) dipper.

Safety

Cab and canopy versions:
Level 1 FOPS (Falling Objects Protective Structure).
TOPS (Tip-Over Protective Structure).
ROPS (Roll-Over Protective Structure).
Seatbelt.
Interlock for Joystick levers and propulsion controls – Raise left console.
Interlock for Engine starting safety – Raise left console.
Equipment lowering system in case of engine stoppage – Pressure accumulator.
Laminated glass front window (cab).

Official approval

Machine meets 98/37/EC.
Noise emissions meets 2000/14/EC.
Object handling device meets EN 474-5.
FOPS 1 meets ISO 3449.
TOPS meets ISO 12117 & EN 13531.
Electromagnetic compatibility (EMC) meets 89/336/EC & amendments.

OPTIONAL EQUIPMENT

Digging equipment

Long dipper – ECR28: **51.2"** (1300 mm).
Long dipper – ECR38: **59.1"** (1500 mm).
Boom cylinder safety valve with overload indicator.
Dipper cylinder safety valve.
Mechanically or hydraulically-controlled attachment quick-change system.
Single-acting or double-acting hydraulic circuit for attachment quick-change.

Hydraulic circuits for attachments

Hydraulic circuit for operating a clam-shell bucket (opening/closing and rotation).
Flow control for single-acting/double-acting auxiliary hydraulic system.

Undercarriage

Wide rubber tracks
ECR28: **11.8"** (300 mm) wide.
Steel tracks
ECR28: **9.8"** (250 mm) wide.
ECR38: **11.8"** (300 mm) wide.

Cab / Canopy

Retractable seatbelt.
ECR28: "Deluxe" fabric (cab) or vinyl-covered (canopy) multi-adjustable, high-back, full-suspension console/seat assembly.

Lighting

Additional working light on the boom.
Additional rear working light
Rotating beacon.

Environmental protection

Bio-degradable hydraulic oil.
Catalytic exhaust.

Comfort and safety

Radio (cab).
Anti-theft system (2 programmable codes).
Electric circuit-breaker.
Left and right rear sideview mirrors.

Service and maintenance

Tool kit.

Miscellaneous

Special custom paint (RAL specifications).



Volvo Construction Equipment is different. It's designed, built and supported in a different way. That difference comes from our 170-year engineering heritage. A heritage of thinking first about the people who actually use the machines. About how to help them be safer, more comfortable, more productive. About the environment we all share. The result of that thinking is a growing range of machines and a global support network dedicated to helping you do more. People around the world are proud to use Volvo. And we're proud of what makes Volvo different – **More care. Built in.**



All products are not 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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