

V O L V O



Volvo Electric Compact Excavators 2,68 - 2,78 t / 5.910 - 6.130 lb

# ECR25 ELECTRIC

Volvo Construction Equipment

# ECR25 ELECTRIC

Increase your uptime with this short swing radius electric compact excavator. All the power but none of the emissions as its diesel equivalent.



# A compact game changer

The Volvo ECR25 Electric is a true game changer: the electric compact excavator takes a proven concept and then adds battery electric power. An electric model is perfect for working in limited spaces, because with no emissions there is no need for an exhaust extraction system. While getting the same performance as its diesel equivalent, you can recharge ECR25 Electric during your lunch and operate for four hours straight, wasting no time to refuel specifically.



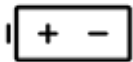
## Proven performance

- Same performance as its diesel equivalent
- Zero-tail swing radius
- Front corner stays within tracks width
- Great combined movements performance
- Range of Volvo Attachments



## Flexible charging solutions

- Standard Electric Vehicles (EV) charging protocol
- Multiple charging options, gets to 80% in less than 1 hour
- Keep track of charging status, battery level and location with the Electric Machines Management Application



## State-of-the-art battery technology

- 2 to 4 hours of run time depending on application
- Anti-theft fixed battery
- 48V lithium-ion, maintenance-free battery
- Designed to deliver up to 2.000 full charge cycles



## Zero emission

- No emission locally
- Sound level down
- Low electricity cost
- No power consumption when machine not working



## Reduced maintenance

- Maintenance-free electric motor with auto shutoff
- Easy access to components
- 50-hours greasing intervals
- Patented multifunction hydraulic filter, protecting the hydraulic system
- Hoses protected inside the boom and arm

# Volvo ECR25 Electric in detail

Electrical system		
Battery Type		Lithium-ion
Battery Voltage	V	48
Battery capacity	kWh	20
	Ah	450
Indicative runtime (depending on application)	hours	up to 4
Auxiliary Battery Voltage	V	12
Auxiliary Battery capacity	Ah	70
Alternator	V/Ah	12/40

Electrical Motor		
Motor type		Permanent magnet
Motor power (peak)	kW	18
Motor power (continuous)	kW	14,8
Operating mode max. / Standard	r/min	2.050
Operating mode max. / Eco	r/min	1.800
Operating mode max. / Boost	r/min	2.400

Swing system		
Max, slew speed	r/min	9,4
Max, slew torque	daNm (ft lbf)	485 (3.577)

Digging Performances		
Standard bucket width (blade, W/O side cutter)	mm (in)	500 (19,7)
Standard bucket mass	kg (lb)	59 (130)
Standard bucket rated capacity	l (ft <sup>3</sup> )	74 (2,61)
Bucket rotation	°	205
Bucket breakout force (ISO)	daN (lbf)	2.233 (5.020)
Short arm tearout force (ISO)	daN (lbf)	1.776 (13.099)
With short arm	mm (ft in)	1.050 (3'5")
Long arm tearout force (ISO)	daN (lbf)	1.497 (3.365)
With long arm	mm (ft in)	1.350 (4'5")

Travel System		
Max, drawbar pull	daN (lbf)	1.984 (4.460)
Max. travel speed low	km/h (mi/h)	2,4 (1,5)
Max. travel speed high	km/h (mi/h)	4,5 (2,8)
Gradeability	°	30

Hydraulic system		
Pump type		Variable displacement, load sensing
Maximum system flow	l/min (gal/min)	58 (15,3)
	l/min (gal/min)	50 (13,2)
Maximum flow for accessories	l/min (gal/min)	50 (13,2)
Maximum pressure for accessories	MPa (psi)	25 (3.626)
Maximum flow for 2nd accessory circuit (option)	l/min (gal/min)	23 (6,07)
Maximum operating pressure	MPa (psi)	25 (3.626)

Weight and Ground Pressure		
Operating weight according to ISO 6016	kg (lb)	2.675 (5.897)
Ground pressure (cab)	kPa (psi)	28,4 (4,12)
Transport weight	kg (lb)	2.600 (5.732)
With canopy		
With direct-fit bucket		
With rubber tracks	mm (in)	300 (11,8)
With short arm	mm (in)	1.050 (41,3)
With heated cab	+kg (+lb)	90 (198,4)
With long arm	+kg (+lb)	12 (26,5)
With long arm	mm (in)	1,350 (53,1)

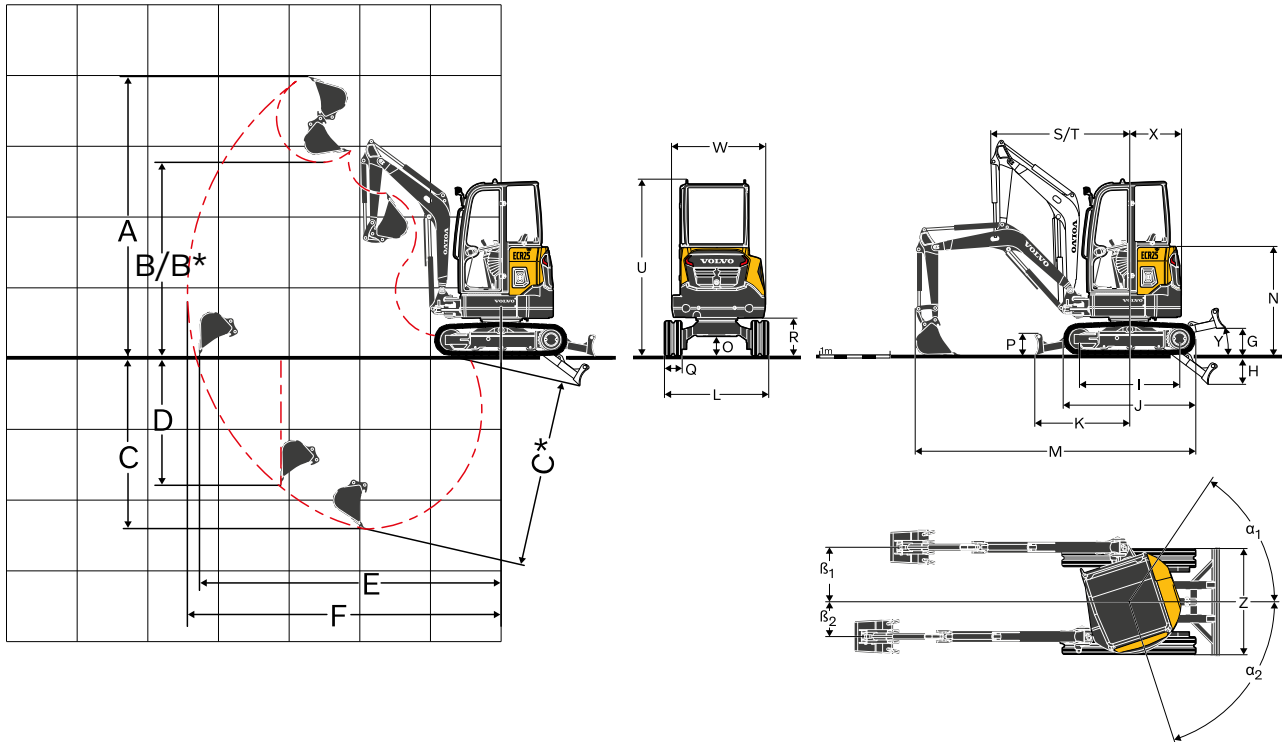
Service Refill		
Hydraulic system, total	l (gal)	33 (8,72)
Hydraulic tank	l (gal)	23 (6,08)
Travel reduction unit	l (gal)	2 x 0,6 (2 x 0,16)

Undercarriage and structures		
Rubber track width	mm (in)	300 (11,8)
Bottom/top rollers per side		3 / 1
Track tension		by grease piston
Blade (width x height)	mm (in)	1.550 x 312 (61 x 12,3)

Sound Level		
Interior sound level according to ISO 6396		
L <sub>pA</sub>	dB	74
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
L <sub>WA</sub>	dB	84



# Specifications



## DIMENSIONS

Description		Unit		ECR25 Electric			
				1.050	3'5"	1.350	4'5"
<b>Arm</b>		mm	ft in				
A	Maximum cutting height	mm	ft in	4.010	13'2"	4.183	13'9"
B	Maximum dump height	mm	ft in	2.784	9'2"	2.957	9'8"
B*	Maximum bucket clearance	mm	ft in	2.897	9'6"	3.070	10'1"
C	Digging depth	mm	ft in	2.461	8'1"	2.761	9'1"
C*	Maximum digging depth	mm	ft in	2.672	8'9"	2.965	9'9"
D	Maximum vertical wall digging depth	mm	ft in	1.832	6'0"	2.119	6'11"
E	Maximum digging reach at ground level	mm	ft in	4.313	14'2"	4.602	15'1"
F	Maximum digging reach	mm	ft in	4.484	14'9"	4.768	15'8"
G	Highest position dozer blade	mm	ft in	401	1'4"	401	1'4"
H	Lowest position dozer blade	mm	ft in	422	1'5"	422	1'5"
I	Tumbler length	mm	ft in	1.440	4'9"	1.440	4'9"
J	Track length	mm	ft in	1.906	6'3"	1.906	6'3"
K	Dozer blade, maximum reach at ground level	mm	ft in	1.365	4'6"	1.365	4'6"
L	Overall width with 300 mm rubber tracks	mm	ft in	1.550	5'1"	1.550	5'1"
M	Overall length	mm	ft in	4.008	13'2"	3.876	12'9"
M	Transport length	mm	ft in	4.595	15'1"	4.525	14'10"
N	Overall height of engine hood	mm	ft in	1.570	5'2"	1.570	5'2"
O	Minimum ground clearance	mm	ft in	290	0'11"	290	0'11"
P	Dozer blade height	mm	ft in	312	1'0"	312	1'0"
Q	Shoe width (rubber)	mm	in	300	12	300	12
R	Ground clearance to superstructure	mm	ft in	554	1'10"	554	1'10"
S	Front slew radius	mm	ft in	2.002	6'7"	2.002	6'7"
T	Front slew radius with maximum offset	mm	ft in	1.555	5'1"	1.555	5'1"
U	Overall height cab	mm	ft in	2.535	8'4"	2.535	8'4"
W	Overall width of superstructure	mm	ft in	1.340	4'5"	1.340	4'5"
X	Tail slew radius	mm	ft in	750	2'6"	750	2'6"
Y	Angle of approach		°			34	
Z	Dozer blade width	mm	ft in	1.550	5'1"	1.550	5'1"
$\alpha_1$	Maximum boom swing angle to the left		°			72	
$\beta_1$	Maximum boom offset to the right	mm	ft in	784	2'7"	784	2'7"
$\alpha_2$	Maximum boom swing angle to the right		°			56	
$\beta_2$	Maximum boom offset to the left	mm	ft in	496	1'8"	496	1'8"

## LIFTING CAPACITY ECR25 ELECTRIC

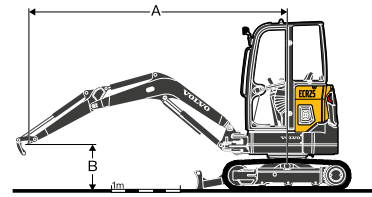
These capacities are given for a machine equipped with a cabin, 300 mm (12") rubber tracks and without a bucket or quick coupler.

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.



Along undercarriage	Across undercarriage	Lifting point height (B)	Lifting point radius (A)																				
			2,0 m / 6'7"			3,0 m / 9'10"			Max. reach			Max.											
			kg	lb	ft	kg	lb	ft	kg	lb	ft	m	ft										
Arm: 1.050 mm (3'5") Counterweight: Standard	3 m 9'10"	kg	lb	-	-	-	544	1.190	567*	1.250*	519	1.140	530	1.160	567*	1.250*	506	1.110	3,048	10'0"			
	2 m 6'7"	kg	lb	-	-	-	538	1.180	600*	1.320*	513	1.130	394	860	592*	1.300*	377	830	3,667	12'0"			
	1 m 3'3"	kg	lb	-	-	-	514	1.130	797*	1.750*	490	1.080	358	780	685*	1.510*	343	750	3,858	12'8"			
	0 m 0	kg	lb	904	1.990	1.602*	3.530*	848	1.870	496	1.090	934*	2.050*	474	1.040	374	820	758*	1.670*	358	780	3,706	12'2"
	-1 m -3'3"	kg	lb	914	2.010	1.546*	3.400*	858	1.890	501	1.100	850*	1.870*	477	1.050	471	1.030	850*	1.870*	449	990	3,144	10'4"
Arm: 1.350 mm (4'5") Counterweight: Standard	2 m 6'7"	kg	lb	-	-	-	500*	1.100*	500*	1.100*	500*	1.100*	347	760	508*	1.110*	332	730	3,971	13'0"			
	1 m 3'3"	kg	lb	942	2.070	1.334*	2.940*	884	1.940	514	1.130	715*	1.570*	489	1.070	319	700	577*	1.270*	306	670	4,142	13'7"
	0 m 0	kg	lb	894	1.970	1.608*	3.540*	838	1.840	492	1.080	897*	1.970*	468	1.030	330	720	623*	1.370*	316	690	4,002	13'2"
	-1 m -3'3"	kg	lb	897	1.970	1.659*	3.650*	840	1.850	488	1.070	902*	1.980*	464	1.020	397	870	693*	1.520*	379	830	3,502	11'6"

Charging times ECR25 Electric	Electric power supply				Charging socket	
	Type	Voltage	Current	Power outlet		
FAST CHARGING With off-board DC fast charger  Max. charger output power/current : -9.6 kW/200 A -17.3 kW/360A	3P+N+E	400 V	32 A (=>360 A)			10-80% : 55 min
			16 A (=>200 A)			10-80% : 1h 20 min
OVERNIGHT CHARGING With standard AC on-board charger  Max. charger output power : -3 kW	1P+N+E	230 V	16 A			5h
			13 A			5h 30 min
			10 A			7h 15 min
			8 A			9h
			6 A			12h 15 min
Charging station and wall box						5h

# Equipment

## STANDARD EQUIPMENT

### 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 48V battery (3-rack) - fixed for anti-theft protection
- On-board charger with Type 2 socket
- Standard charger cable with 3 plugs (domestic - white, CEE 16A 1 phase - blue, and CEE 32A 3 phase - Red)
- Fast charger ready with weather protected socket
- Maintenance free 12V auxiliary battery
- High quality connectors
- Protected battery cut-off switch
- Auto-idling and auto-shutdown function on electric motor

### Machine exterior

- Warning beacon, flashing LED
- Front cabin LED worklight
- Right and left rear-view mirror
- High visibility orange entrance foot step and handle
- White noise travel alarm

### 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 and structures

- 300 mm (12") rubber tracks
- "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
- Cushioning on cylinders:
- Boom up
- Large tiltable oil cooler
- Patented filtering and filling element
- Accessory flow adjustment
- Secondary relief valves for auxiliaries
- Hammer / shear valve
- Mineral hydraulic oil VG46

### Machine control system

- 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
- Electric motor starting safety device: the left console must be raised to operate the starter
- Pressure accumulator to lower the equipment on the ground when the motor 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

## STANDARD EQUIPMENT

### 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-strut 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 lockable door.
- Cab inside light
- High visibility 2" orange seatbelt
- Seatbelt with warning indicator
- In-cab 12V power socket
- Cup holder
- Phone holder
- Provision for a radio (antenna and electric wiring already fitted)

### 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

### Instrumentation and monitoring

- High contrast colour 5" LCD display with day and night modes enabling good readability whatever lighting conditions
- Jogwheel for easy navigation and electric motor speed adjustment
- 3 working modes: Standard, ECO and Boost
- Built-in anti-theft feature
- Several warning messages, coupled to needed action, in the event of malfunction
- Volvo Telematic System

### Service and maintenance

- Tool Kit

### 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).



## OPTIONAL EQUIPMENT

### Operator Environment

Canopy
Heated cab
Vinyl or fabric seat, lumbar adjustment, high backrest and retractable seat belt
3" Seat Belt
ISO / SAE control pattern change
Radio AM/FM, AUX, USB, Bluetooth
Radio AM/FM/DAB, AUX, USB, SD MP3, Bluetooth
Additional lockable storage box (behind the seat)

### Electric / electronic control system

Off-board Fast charger IP54 360 A – 17,3 kW Outdoor
Off-board Fast charger IP21 200 A – 9,6 kW Indoor
Off-board Fast charger IP21 360 A – 17,3 kW Indoor

### Machine exterior

Full LED worklights package - Front and rear of the cab, boom and rotating beacon
Several levels of paint customisation (RAL specifications) to match with your corporate identity
Green beacon linked to seat belt
Front canopy guard (OPG1)

## OPTIONAL EQUIPMENT

### Hydraulic system

Boom & arm safety lifting valves with overload indicator
Boom, arm and dozer blade safety lifting valves with overload indicator
Safety valve certification
Bio hydraulic oil VG46 (PANOLIN®)
Hydraulic oil VG32
Bio hydraulic oil VG32 (PANOLIN®)
Hydraulic oil VG68
Second accessory circuit
Flat face hydraulic quick couplings
Single-acting hydraulic circuit for accessories
Double-acting hydraulic circuit for accessories
Hydraulic drain for accessories

### Digging equipment

Short arm 1.050 mm (3'5")
Long arm 1.350 mm (4'5")

### Attachments

S-type mechanical quick coupler (S40)
S-type hydraulic quick coupler (S40)
Volvo quick coupler mechanical (pin-on)
Extra pin kit
Lehnhoff® Quick Coupler Mechanical (MS03)
General purpose buckets (250 mm (10"), 34L (6,3 gal) up to 750 mm (30"), 119L (31,4 gal))
Aggressive cut buckets (350 mm (14"), 50L (12,2 gal) / 550 mm (22"), 95L (25 gal))
Fix ditching buckets (1.200 mm (3'11"), 125 L (33 gal) / 1.300 mm (4'3"), 141L (37 gal))
Tiltable ditching buckets (1.200 mm (3'11"), 125 L (33 gal))
Hydraulic breaker HB03LN

## SELECTION OF VOLVO OPTIONAL EQUIPMENT

### Specific colors



### Secondary Accessory Circuit



### Safety valves



### Fast charger



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.



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