

V O L V O



Volvo Electric Compact Excavators 2.68 - 2.78 t

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.



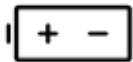
Proven performance

- 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	485

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	°	205
Bucket breakout force (ISO)	daN	2 233
Short arm tearout force (ISO)	daN	1 776
With short arm	mm	1 050
Long arm tearout force (ISO)	daN	1 497
With long arm	mm	1 350

Travel System

Max, drawbar pull	daN	1 984
Max. travel speed low	km/h	2.4
Max. travel speed high	km/h	4.5
Gradeability	°	30

Hydraulic system

Pump type	Variable displacement, load sensing	
Maximum system flow	l/min	58
Maximum flow for accessories	l/min	50
Maximum pressure for accessories	MPa	25
Maximum flow for 2nd accessory circuit	l/min	23
Maximum operating pressure	MPa	25

Weight and Ground Pressure

Operating weight according to ISO 6016	kg	2 675
Ground pressure (cab)	kPa	28.4
Transport weight	kg	2 600

With canopy

With direct-fit bucket		
With rubber tracks	mm	300
With short arm	mm	1 050
With heated cab	+kg	90
With long arm	+kg	12
	mm	1 350

Service Refill

Hydraulic system, total	l	33
Hydraulic tank	l	23
Travel reduction unit	l	2 x 0.6

Undercarriage

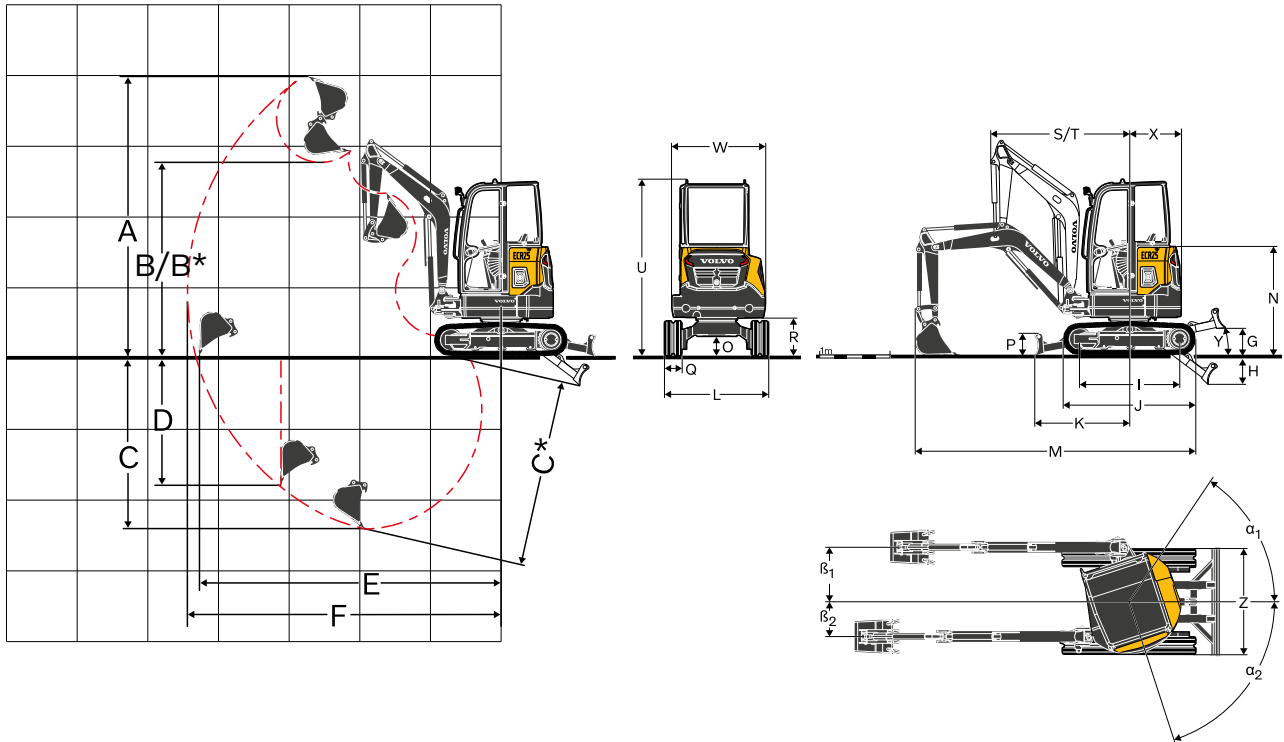
Rubber track width	mm	300
Bottom/top rollers per side	3 / 1	
Track tension	by grease piston	
Blade (width x height)	mm	1 550 x 312

Sound Level

Interior sound level according to ISO 6396		
LpA	dB	74
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
LwA	dB	84



Specifications



DIMENSIONS

Description		Unit	ECR25 Electric	
Arm		mm	1050	1350
A	Maximum cutting height	mm	4 010	4 183
B	Maximum dump height	mm	2 784	2 957
B*	Maximum bucket clearance	mm	2 897	3 070
C	Digging depth	mm	2 461	2 761
C*	Maximum digging depth	mm	2 672	2 965
D	Maximum vertical wall digging depth	mm	1 832	2 119
E	Maximum digging reach at ground level	mm	4 313	4 602
F	Maximum digging reach	mm	4 484	4 768
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	
M	Overall length	mm	4 008	3 876
M	Transport length	mm	4 595	4 525
N	Overall height of engine hood	mm	1 570	
O	Minimum ground clearance	mm	290	
P	Dozer blade height	mm	312	
Q	Shoe width (rubber)	mm	300	
R	Ground clearance to superstructure	mm	554	
S	Front slew radius	mm	2 002	
T	Front slew radius with maximum offset	mm	1 555	
U	Overall height cab	mm	2 535	
W	Overall width of superstructure	mm	1 340	
X	Tail slew radius	mm	750	
Y	Angle of approach	°	34	
Z	Dozer blade width	mm	1 550	
α_1	Maximum boom swing angle to the left	°	72	
β_1	Maximum boom offset to the right	mm	784	
α_2	Maximum boom swing angle to the right	°	56	
β_2	Maximum boom offset to the left	mm	496	

LIFTING CAPACITY ECR25 ELECTRIC

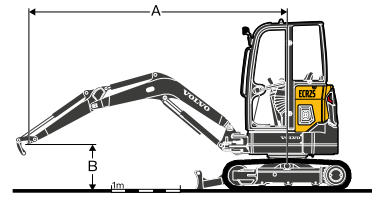
These capacities are given for a machine equipped with a cabin, 300 mm rubber tracks and without a bucket or quick coupler.

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.



Along undercarriage	Lifting point height (B)		Lifting point radius (A)									Max. m
			2.0 m			3.0 m			Max. reach			
Arm: 1 050 mm Counterweight: Standard	3 m	kg	-	-	-	544	567*	519	530	567*	506	3.048
	2 m	kg	-	-	-	538	600*	513	394	592*	377	3.667
	1 m	kg	-	-	-	514	797*	490	358	685*	343	3.858
	0 m	kg	904	1 602*	848	496	934*	474	374	758*	358	3.706
	-1 m	kg	914	1 546*	858	501	850*	477	471	850*	449	3.144
Arm: 1 350 mm Counterweight: Standard	2 m	kg	-	-	-	500*	500*	500*	347	508*	332	3.971
	1 m	kg	942	1 334*	884	514	715*	489	319	577*	306	4.142
	0 m	kg	894	1 608*	838	492	897*	468	330	623*	316	4.002
	-1 m	kg	897	1 659*	840	488	902*	464	397	693*	379	3.502

Charging times ECR25 Electric	Grid side				Machine side	
	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/360 A	3P+N+E	400 V	32 A (=>360A)			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

- 300 mm 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 (antena 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 360A – 17.3kW Outdoor
Off-board Fast charger IP21 200A – 9.6kW Indoor
Off-board Fast charger IP21 360A – 17.3kW 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
Long arm 1 350 mm

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, 34L up to 750 mm, 119L)
Aggressive cut buckets (350 mm, 50L / 550 mm, 95L)
Fix ditching buckets (1 200mm, 125 L / 1300mm, 141L)
Tilttable ditching buckets (1200 mm, 125 L)
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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