VOLVO

Volvo Electric Compact Excavators 2.6 - 2.7 t

ECR25 ELECTRIC

Volvo Construction Equipment

ECR25 ELECTRIC

Built on the legacy of its well-performing diesel counterpart and bringing significant improvements on the first-generation zero-emission electric compact excavator, this new model takes the value proposition to an entirely new level

Runtime & performance

- 4 to 8 hours of operation or a full working day depending on the application
- Same performance as its diesel equivalent
- Zero-tail swing radius
- Great combined movements performance
- Range of Volvo Attachments enhancing versatility in various applications

Zero emission

- No emission locally
- Sound level down
- Low electricity cost
- No power consumption while idling

Double runtime, reduced and improved noise quality

With the new generation of the ECR25 Electric and thanks to its new battery pack (40kWh), we offer up to a full working shift - 4 to 8 hours runtime - without the need for charging, resulting in increased operational efficiency, more uptime, and an improved total cost of ownership. With its lower weight, it better meets transportability needs. Improvement of the noise quality and simplified charging process provide enhanced customer experience.

Flexible charging solutions

- Standard Electric Vehicles (EV) charging protocol
- Integrated onboard AC charger powers up the machine overnight in 6 hours
- Fast charging from 20%-80% in 1.5 hours
- Visible charging status thanks to external LED
- Simplified charging with no need to enter the cab
- Control and monitor thanks to programmable charging, target State of Charge (SOC)
- Automatic charge re-start

Improved design

- Improved undercarriage for more stability and durability
- Smoother operation in digging and travelling, resulting in better work precision and safety.
- Swing cylinder kept on left to optimize swing lateral work while keeping free access to the cabin
- Reduced noise perception due to new hydraulic pump

Transportability optimized

- Lighter machine compared to previous generation
- Better transportability – can be hauled on a 3.5-ton trailer with 3 buckets
- Meets EU regulation and markets needs

My Equipment

- Easily connect, charge, and monitor your electric construction machine anywhere, on any device, using My Equipment web app from Volvo CE.

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

Link to My Equipment web site here

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Volvo ECR25 Electric in detail

Electrical Motor		
Motor type		Permanent magnet
Motor power (peak)	kW	47.1
Motor power (continuous)	kW	14.8
Operating mode max. / Standard	rpm	1 350
Operating mode max. / Eco	rpm	1 540
Operating mode max. / Boost	rpm	1 750

Electrical System		
Battery Type		Lithium-ion
Battery Voltage	V	48
Battery capacity	kWh	40
	Ah	885
Indicative runtime (depending on application)	h	up to 8
Auxiliary Battery Voltage	V	12
Auxiliary Battery capacity	Ah	44

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

Digging Performances		
Standard bucket width (blade, W/O side cutter)	mm	500
Standard bucket mass	kg	59
Standard bucket rated capacity	lit	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. travel speed low	km/h	2.4
Max. travel speed high	km/h	4.5
Max. drawbar pull	daN	1 984
Gradeability	°	30

Swing System		
Max, slew speed	rpm	9.4
Max, slew torque	daNm	485

Service Refill		
Hydraulic system, total	lit	29
Hydraulic tank	lit	15
Travel reduction unit	lit	2 x 0.6

Sound Level		
Interior sound level according to ISO 6396		
L_{pA}	dB	76
External sound level according to ISO 6395 and EU Noise Directive (2000/14/EC) and 474-1:2006 +A1:2009		
L_{WA}	dB	80

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 (option)	l/min	23
Maximum operating pressure	MPa	25

Weight and Ground Pressure		
Operating weight according to ISO 6016	kg	2 720
Ground pressure (cab)	kPa	27
Ground pressure (canopy)	kPa	26
Transport weight	kg	2 640
With heated cab		included
With direct-fit bucket		included
With rubber tracks	mm	300
With short arm	mm	1 050
With canopy	-kg	90
With long arm	+kg	12
With long arm	mm	1 350
With additional counterweight	+kg	100

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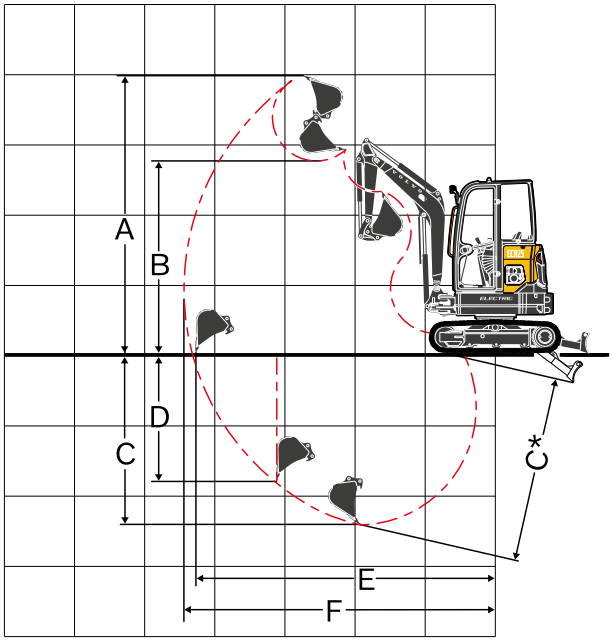
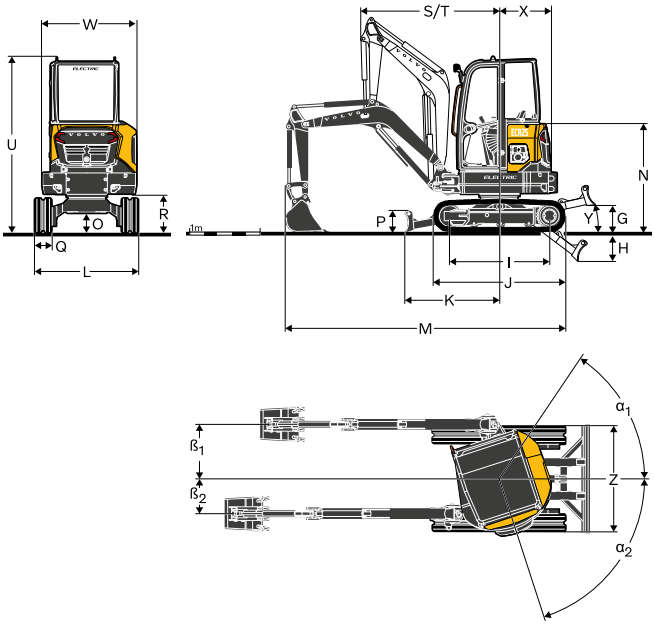
Specifications



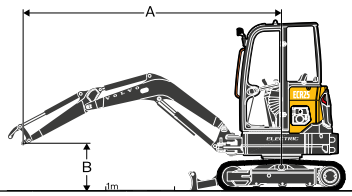


DIMENSIONS

Description		Unit	ECR25 Electric	
Arm		**mm**	**1 050**	**1 350**
A	Maximum cutting height	mm	4 044	4 227
B	Maximum dump height	mm	2 738	2 911
C	Digging depth	mm	2 506	2 806
C*	Maximum digging depth	mm	2 711	3 009
D	Maximum vertical wall digging depth	mm	1 778	2 145
E	Maximum digging reach at ground level	mm	4 355	4 644
F	Maximum digging reach	mm	4 530	4 814
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	4 060	3 940
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	315	
Q	Shoe width (rubber)	mm	300	
R	Ground clearance to superstructure	mm	554	
S	Front slew radius	mm	2 002	2 025
T	Front slew radius with maximum offset	mm	1 555	
U	Overall height of canopy	mm	2 505	
U	Overall height of cab	mm	2 535	
W	Overall width of superstructure	mm	1 379	
X	Tail slew radius	mm	775	
X*	Additional counterweight overhang	mm	836	
Y	Angle of approach	°	31	
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 / Across undercarriage	Lifting point height (B)		Lifting point radius (A)									
			2.0 m			3.0 m			Max. reach			Max.
												m
Arm: 1 050 mm Counterweight: Standard	3 m	kg	-	-	-	442	567*	421	430	578*	410	3.047
	2 m	kg	-	-	-	436	600*	415	314	602*	300	3.671
	1 m	kg	-	-	-	412	797*	392	284	644*	271	3.859
	0 m	kg	722	1 602*	676	396	934*	376	296	700*	282	3.705
	-1 m	kg	732	1 545*	685	398	850*	378	374	770*	356	3.147
Arm: 1 050 mm Counterweight: +100 kg additional	3 m	kg	-	-	-	486	567*	463	473	578*	451	3.047
	2 m	kg	-	-	-	480	600*	457	349	602*	333	3.671
	1 m	kg	-	-	-	456	797*	433	316	644*	302	3.859
	0 m	kg	801	1 602*	749	440	934*	417	330	700*	314	3.705
	-1 m	kg	811	1 545*	758	442	850*	420	416	770*	395	3.147
Arm: 1 350 mm Counterweight: +100 kg additional	2 m	kg	-	-	-	483	501*	459	306	533*	292	3.971
	1 m	kg	839	1 336*	785	456	717*	433	280	572*	268	4.143
	0 m	kg	791	1 608*	739	434	899*	412	289	623*	276	4.005
	-1 m	kg	793	1 661*	741	430	904*	408	349	692*	332	3.506

Charging times ECR25 Electric	Electric power supply				Charging socket	Charging time, 10-100%
	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 (=>360A)	IEC60309	DIN	10-80% : 1h 40 min
			16 A (=>200 A)	IEC60309	DIN	10-80% : 2h 30 min
OVERNIGHT CHARGING With standard AC on-board charger Max. charger output power : -6 kW	2P+N+E	230 V	16 A	IEC60309	Type 2	5h 30 min
	1P+N+E		16 A	IEC60309	Type 2	10h 30 min
			13 A	Type E	Type 2	10h 30 min
			10 A	Type E	Type 2	13h min
			8 A	Type F	Type 2	16 h
			6 A	Type G	Type 2	22 h
Charging station and wall box				Type 2 AC	Type 2	5h 30 min

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 5-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
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 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
Patented filtering and filling element
Accessory flow adjustment
Secondary relief valves for auxiliaries
Mineral hydraulic oil VG46
Machine control technology
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
Cab/Operator envioment
Canopy
Heated cab
Vinyl or fabric seat, lumbar adjustment, high backrest and retractable seat belt
3” Seat Belt
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 – 17.3 kW Outdoor
Off-board Fast charger IP21 200A – 9.6 kW Indoor
Off-board Fast charger IP21 360A – 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)
Additional counterweight
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 hydaulic 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, 34 L up to 750 mm, 119 L)
Aggressive cut buckets (350 mm, 50 L / 550 mm, 95 L)
Fix ditching buckets (1 200 mm, 125 L / 1 300 mm, 141 L)
Tiltable ditching buckets (1 200 mm, 125 L)
Hydraulic breaker HB02LN
Hydraulic breaker HB03LN
Hydraulic thumb

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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