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Volvo Compact Excavators 1.79-2.06 t

ECR18 ELECTRIC

Volvo Construction Equipment

ECR18 ELECTRIC

Low noise, zero emissions and an ergonomically designed cab make the ECR18 Electric quiet, clean and comfortable. A perfect fit for a modern work site.



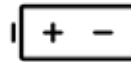
Packed with power

The ECR18 Electric boasts low noise and zero-tailpipe emissions, creating new opportunities for your business. Now you can operate in noise sensitive areas, out of standard hours, on low-carbon projects or indoors, without the need for costly fume extraction systems. Enjoy an enhanced operator experience with ergonomic and intuitive controls, unrivalled performance in combined movements and best-in-class stability.



Flexible charging solutions

- Safe and standard Electric Vehicles (EV) charging protocol
- 10 to 100% in under 5 hours on 240V level 2 charging
- 10 to 80% in less than 45 minutes with standard DC fast charging
- Supported by Electric Machine Management Application



Premium battery

- 48V lithium-ion battery
- 2 to 5 hours of run time
- Maintenance-free battery
- Designed to deliver up to 2 000 full charge cycles



Operator comfort

- Spacious and uncluttered cab
- Superior visibility, low vibration
- 5" color display with jog wheel navigation
- Extensive information and customization abilities
- Simplified menu option for large fleet owners
- Fingertip controls, with adjustable hydraulic flow



Zero emission

- No emission locally
- Sound level down – 80 dB external noise L_{WA}
- Low electricity cost
- No power consumption when machine not working

Volvo ECR18 Electric in detail

Electrical system		
Battery Type	Lithium-ion	
Battery Voltage	V	48
Battery capacity	kWh	16
	Ah	360
Indicative runtime (depending on application)	hours	up to 5
Auxiliary Battery Voltage	V	12
Electrical Motor		
Motor type	Permanent magnet	
Motor power (peak)	kW	18
Motor power (continuous)	kW	12.5
Operating mode max. / Standard	r/min	2 550
Operating mode max. / Eco	r/min	2 250
Operating mode max. / Boost	r/min	3 000
Swing System		
Max, slew speed	r/min	9.5
Max, slew torque	daNm	243
Digging Performances		
Standard bucket width (blade, W/O side cutter)	mm	450
Standard bucket mass	kg	33
Standard bucket rated capacity	l	36
Bucket rotation	°	196
Bucket breakout force (ISO)	daN	1 290
Short arm tearout force (ISO)	daN	795
Long arm tearout force (ISO)	daN	695
Travel System		
Max, drawbar pull	daN	1 300
Max. travel speed low	km/h	1.8
Max. travel speed high	km/h	3.5
Gradeability	°	30

Hydraulic system		
Maximum system flow	l/min	34
Maximum flow for accessories	l/min	30
Maximum flow for 2nd accessory circuit	l/min	
Maximum operating pressure	MPa	17
Weight and Ground Pressure		
Operating weight according to ISO 6016	kg	1 795
Ground pressure (cab)	kPa	
Ground pressure (canopy)	kPa	27
Transport weight	kg	1 720
With rubber tracks	mm	230
With short arm	mm	950
With canopy	-kg	
With long arm	+kg	4
With long arm and heavy counterweight	+kg	42
With heavy counterweight	+kg	38
With steel tracks	+kg	32
Service Refill		
Hydraulic system, total	l	21
Hydraulic tank	l	15
Undercarriage		
Bottom/top rollers per side		3 / 0
Track tension		By grease piston
Blade (width x height)	mm	1 340 x 230

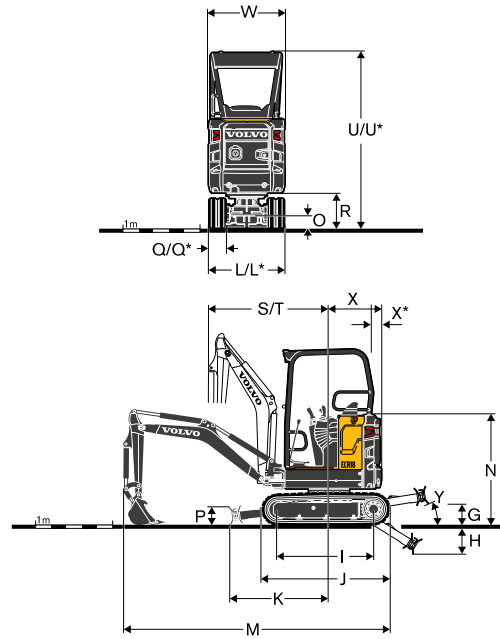
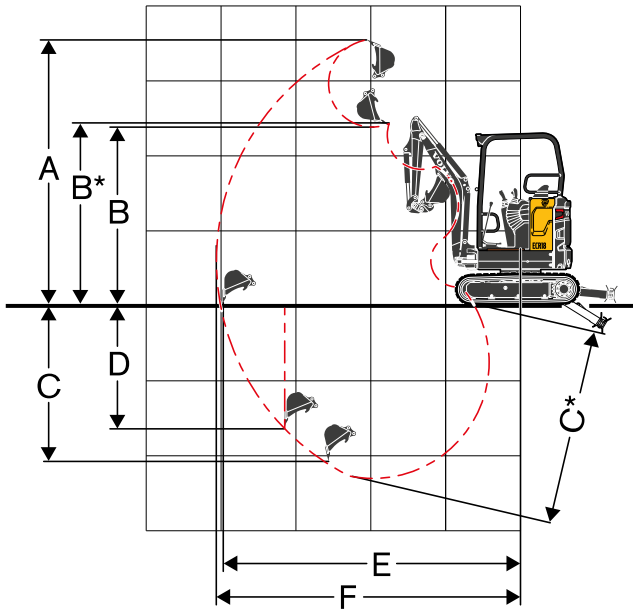
Attachments specifications

	Unit	General Purpose buckets								Aggressive Cut buckets			Ditching buckets				Hydraulic breaker HBO2 Low Noise
		200	250	300	400	450	500	600	350	550*	550	850	1 000	850	1 000		
Quick Coupler type	mm																-
Volvo mechanical (pin-on)	l	14	19	23	32	36	41	51	-	-	-	-	59	76	59	-	Pin-on bracket
Lehnhoff® mechanical	l	-	-	23	32	-	41	-	-	-	-	-	59	76	59	-	Lehnhoff type bracket
Mechanical, symmetrical type	l	-	-	-	-	-	-	-	25	55	55	-	76	-	76	-	Symmetrical type bracket

*with teeth

For more details, see Attachments catalogue

Specifications













DIMENSIONS

Description		Unit	ECR18 Electric	
Arm		mm	950	1 150
A	Maximum cutting height	mm	3 442	3 582
B	Maximum dump height	mm	2 444	2 588
B*	Maximum bucket clearance	mm	2 482	2 625
C	Digging depth	mm	2 234	2 434
C*	Maximum digging depth	mm	2 528	2 727
D	Maximum vertical wall digging depth	mm	1 898	2 091
E	Maximum digging reach at ground level	mm	3 921	4 113
G	Highest position dozer blade	Short blade	mm 225	
		Long blade	mm 267	
H	Lowest position dozer blade	Short blade	mm 267	
		Long blade	mm 386	
J	Track length	mm	1 620	
K	Dozer blade, maximum reach at ground level	Short blade	mm 1 082	
		Long blade	mm 1 272	
L	Overall width with 230mm tracks	Min	mm 995	
		Max	mm 1 352	
M	Overall length	mm	3 431	3 309
M*	Transport length (arm lowered)	Short blade	mm 3 932	
		Long blade	mm 4 122	
P	Dozer blade height	mm	231	
Q	Shoe width (rubber)	mm	230	
Q ⁽¹⁾	Shoe width (steel)	mm	230	
R	Ground clearance to superstructure	mm	456	
S	Front slew radius	mm	1 575	1 568
T	Front slew radius with maximum offset	mm	1 269	1 287
U*	Overall height canopy	mm	2 298	
X	Tail slew radius	mm	688	
X*	Rear overhang (across tracks)	mm	12	
β_1	Maximum boom offset to the right	mm	516	
β_2	Maximum boom offset to the left	mm	640	

⁽¹⁾ Option

Specifications

Charging times ECR18 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/360A	3P+N+E	400 V	32 A (=>360A)		 DIN	10-80% : 45 min
			16 A (=>200 A)			10-80% : 1h 5 min
OVERNIGHT CHARGING With standard AC on-board charger Max. charger output power : -3 kW	1P+N+E	230 V	16 A		 Type 2	4h45 min
			13 A	 Type E		5h 15 min
			10 A			6h45 min
			8 A			8h 30 min
			6 A	 Type F  Type G		11h 15 min
Charging station and wall box				 Type 2 AC	 Type 2	4h 45 min

Equipment

STANDARD EQUIPMENT

Drivetrain

- Automatic two-speed travel hydraulic motors with reduction gears
- Inner flange bottom 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

Swing System

- Radial piston hydraulic motor with integrated shockless valve
- Automatic multi-disc spring applied hydraulic released slew brake
- Centralized and remote lubrication of crown wheel and ball bearing

Superstructure

- Stamped steel panels all-around, recessed 5 to 15mm
- 4 integrated tie-down points on upper structure

Undercarriage

- Box welded fabricated frame
- Sturdy removeable protecting covers for track motors and slew system
- Box section highly rigid dozer blade structure

Hydraulic system

- High performance Volvo Hydraulic System
- Flow-Sharing and Load Sensing main control valve
- Boom cylinder cushioning at end stroke (up)
- Patented filtering and filling element
- Large side by side oil cooler and radiator
- Double-acting hydraulic circuit for accessories
- Breaker/Shear valve
- Hydraulic hoses routed inside the boom for increased protection

Canopy

- Robust 4-pillar structure canopy
- Cushionned operator station
- Highly visible orange footstep
- Highly visible orange seatbelt with warning indicator
- Warning beacon, flashing LED
- Front cabin LED worklight
- Right and left rear-view mirror
- White noise travel alarm
- Toolbox with integrated storage for operator's manual and lockable door

Digging equipment

- Casted end and structural parts on arm, pivot, undercarriage and upper structure noze
- Monoblock box welded fabricated boom and arm
- Long-life steel bushings & hardened, pre-lubricated and corrosion resistant pins
- 50-hours intervals on all grease points

Machine controls

- Automatic locking device for pilot controls and travel levers when the left console is raised
- Proportional and adjustable fingertip control for boom offset and auxiliary circuit
- Pressure accumulator to lower the equipment on the ground

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
- Simplified menus with master profile for full control and user profile with limited customization
- 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

STANDARD EQUIPMENT

Official approval

- Machine conforming to European directive 2006/42/EC
- Low voltage certified according to European directive 2014/35/EU
- 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 2014/30/EU
- Object handling device conforming to EN 474-1 and EN 474-5 standards
- ROPS (Roll-Over Protective Structure) conforming to ISO 3471
- TOPS (Tip-Over Protective Structure) conforming to ISO 12117 and EN 13531 standards
- OPG 1 (Operator Protective Guard on top) conforming to ISO 10262 standard (when equipped)
- FOPS (Falling Object Protective Structure) conforming to EN ISO 3449

OPTIONAL EQUIPMENT

Operator environment

- Vinyl seat with mechanical suspension, extended back with lumbar adjustment and 2" orange retractable seatbelt
- Additional lockable storage box (behind the seat)
- Electrical switch for ISO/SAE control pattern change
- Controls lock, switch
- Controls lock, seat operator presence and switch
- Controls lock, seatbelt sensor
- Tool kit

Machine exterior

- LED worklights package
- Green beacon link to safety belt
- Heavy counterweight
- Several level of customisation (RAL specifications) to match with your corporate identity

Undercarriage

- 230mm (0'9") rubber tracks
- 230mm (0'9") steel tracks
- Short dozer blade
- Long dozer blade

Hydraulics

- Relief valve for auxiliaries
- Kit 2 flat face hydraulic couplings
- Double acting circuit for hydraulic quick couplers
- Boom and arm safety lifting valves
- Boom, arm and dozer blade safety lifting valves
- Several grades of mineral and bio hydraulic oil

Digging equipment

- Short arm
- Long arm

Machine controls

- On/Off fingertip control for boom offset and auxiliary circuit

Attachments

- Volvo mechanical quick coupler (pin-on)
- Lehnhoff® mechanical quick coupler
- Symmetrical type mechanical quick coupler (S30)
- General Purpose buckets
- Fixed Ditching buckets
- Tilttable Ditching buckets
- Hydraulic breaker HB02LN

Charging solutions

- Fast charger, 9.6 kW, indoor use
- Fast charger, 17.3 kW, indoor use
- Fast charger, 17.3 kW, outdoor use

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