

V O L V O



Volvo Compact Excavators 2.06 t / 4,542 lb

# EC18 ELECTRIC

Volvo Construction Equipment

# EC18 ELECTRIC



## Zero emission electric power



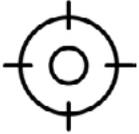
- No emission locally
- Sound level down
- Low electricity cost
- No power consumption when machine not working

## Flexible charging solutions



- Safe and standard Electric Vehicles (EV) charging protocol
- 0 to 100% in 7 hours on 240V level 2 charging
- Standard DC fast charging
- 0 to 80% in 1 hour with DC fast charging
- Keep track of charging status, battery level and geographic location with the Electric Machine Management Application

# A proven past, an electric future



## 48V lithium-ion battery

- 2 to 6 hours of run time depending on application
- Operating time calculator available (contact your dealer)
- Maintenance-free battery battery
- Designed to deliver up to 2,000 full charge cycles
- Battery warranty for 6 years (or 5,000 hours)



## A new level of operator comfort

- Large entrance, spacious and uncluttered heated cab
- Superior visibility, low vibration
- 5" color display with jog wheel navigation
- Extensive information and customization abilities
- Simplified menu for better control
- Fingertip controls, with adjustable hydraulic flow
- Secondary accessory circuit
- Double acting circuit for hydraulic quick coupler



## Go where others can't

- Electric vehicles are a requirement of tenders in many cities
- Ability to work indoor
- Ability to work out of standard hours
- Get access to low-carbon projects
- No need for exhaust extraction systems and operator time limits



## Reduced maintenance

- Maintenance-free electric motor, featuring auto shutoff
- Easy access to components
- 50-hours greasing intervals



## Small but tough

- Overall minimum width of 995 mm (3'33") with expendable undercarriage
- Short radius
- Front right corner, swing post and cylinder within tracks' width
- High-profile cast-iron counterweight
- All-round steel panels recessed from counterweight
- Hoses routed inside the boom



## Proven performance

- Same performance as its diesel equivalent
- Great stability for safety and comfort
- Outstanding lifting capacity
- Great combined movements performance
- Wide range of Volvo Attachments

Explore the machine  
in our walkaround video ▶



# Volvo EC18 Electric in detail

Electrical System		
Battery Type	Lithium-ion	
Battery Voltage	V	48
Battery capacity	kWh	20
	Ah	450
Auxiliary Battery Voltage	V	12
Indicative runtime (depending on application)	hours	up to 6
Charging time		
With 120V AC level 1	hours	14 hours
With 240V AC level 2	hours	7 hours
With DC fast charging	hours	1 hour
Electrical motor		
Motor type	Permanent magnet	
Motor power (peak)	kW	18
Motor power (continuous)	kW	12.5
Operating mode max. / Standard	r/min	2,400
Operating mode max. / Eco	r/min	1,900
Operating mode max. / Boost	r/min	2,700
Swing System		
Max, slew speed	r/min	9.5
Max, slew torque	daNm (ft lbf)	243 (1,792)
Travel System		
Max, drawbar pull	daN (lbf)	1,300 (2,923)
Max. travel speed low	km/h (mi/h)	1.6 (1.0)
Max. travel speed high	km/h (mi/h)	4.0 (2.5)
Gradeability	°	30
Digging Performances		
Standard bucket width (blade, W/O side cutter)	mm (in)	450 (17.7)
Standard bucket mass	kg (lb)	33 (72.8)
Standard bucket rated capacity	l (ft <sup>3</sup> )	36 (1.27)
Bucket rotation	°	196
Bucket breakout force (ISO)	daN (lbf)	1,290 (2,900)
Short arm tearout force (ISO)	daN (lbf)	795 (1,787)
Long arm tearout force (ISO)	daN (lbf)	695 (1,562)

Hydraulic system		
Maximum system flow	l/min (gal/min)	34 (8.98)
Maximum flow for accessories	l/min (gal/min)	30 (7.93)
Maximum flow for 2nd accessory circuit (option)	l/min (gal/min)	23 (6.08)
Maximum operating pressure	MPa (psi)	17 (2,466)
Weight and Ground Pressure		
Operating weight according to ISO 6016	kg (lb)	1,955 (4,310)
Ground pressure (cab)	kPa (psi)	28.9 (4.2)
Ground pressure (canopy)	kPa (psi)	27 (3.9)
Transport weight	kg (lb)	1,880 (4,145)
With rubber tracks	mm (in)	230 (9.06)
With short arm	mm (in)	950 (37.4)
With canopy	-kg (-lb)	84 (185)
With long arm	+kg (+lb)	4 (8.82)
With long arm and heavy counterweight	+kg (+lb)	42 (92.6)
With heavy counterweight	+kg (+lb)	38 (83.8)
With steel tracks	+kg (+lb)	32 (70.5)
Service Refill		
Hydraulic system, total	l (gal)	21 (5.55)
Hydraulic tank	l (gal)	15 (3.96)
Undercarriage		
Bottom/top rollers per side	3 / 0	
Track tension	By grease piston	
Blade (width x height)	mm (in)	1,340 x 230 (52.8 x 9.1)

## Attachments specifications

	Unit		General Purpose buckets													
	mm	in	200	7.87	250	9.84	300	11.8	400	15.8	450	17.7	500	19.7	600	23.6
Quick Coupler type	mm	in	200	7.87	250	9.84	300	11.8	400	15.8	450	17.7	500	19.7	600	23.6
Volvo mechanical (pin-on)	l	gal	14	3.70	19	5.02	23	6.08	32	8.45	36	9.51	41	10.8	51	13.5

\*with teeth

For more details, see Attachments catalogue

## Attachments specifications

	Unit		Aggressive Cut buckets					Ditching buckets								
	mm	in	350	13.8	550*	21.7*	550	21.7	850	33.5	1,000	39.4	850	33.5	1,000	39.4
Quick Coupler type	mm	in	350	13.8	550*	21.7*	550	21.7	850	33.5	1,000	39.4	850	33.5	1,000	39.4
Volvo mechanical (pin-on)	l	gal	-	-	-	-	-	-	59	15.6	76	20.1	59	15.6	-	-

\*with teeth

For more details, see Attachments catalogue



# Equipment

## STANDARD AND OPTIONAL EQUIPMENT

Standard Equipment : •  
Optional Equipment : o

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

### 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	•
Plastic tank with drain plug	•

## STANDARD AND OPTIONAL EQUIPMENT

Standard Equipment : •  
Optional Equipment : o

### Cab / Canopy

Cushionned operator station	•
Large entrance access	•
Large and roomy uncluttered floor	•
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	•

### Cab

Highly visible orange handrail	•
Flat toughened glass all-around	•
Gas-strut assisted front window opening	•
Front windscreen wiper and washer nozzle	•
Right hand side sliding window	•
Heating systems with in-cab adjustment of temperature and air flow, and multiple air vents	•
Filtered air inlet	•
Radio preparation (antenna, wire harness)	•
Additional lockable storage box (behind the seat)	•

### Digging equipment

Casted end and structural parts on arm, pivot, undercarriage and upper structure nose	•
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	•
Short arm	o
Long arm	o

### 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	•
Large travel pedals	•
Breaker (full flow) toggle switch on right joystick	•
Pressure accumulator to lower the equipment on the ground	•

STANDARD AND OPTIONAL EQUIPMENT	
Standard Equipment : •	
Optional Equipment : o	
<b>Instrumentation and monitoring</b>	
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	•
<b>Official approval</b>	
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	•
<b>Operator environment</b>	
Robust 4-pillar structure canopy	o
Heated cab	o
Vinyl seat with mechanical suspension, extended back with lumbar adjustment and 2" orange retractable seatbelt	o
Fabric seat with mechanical suspension, extended back with lumbar adjustment and 2" orange retractable seatbelt	o
Electrical switch for ISO/SAE control pattern change	o
Radio, AUX, USB, Bluetooth	o
Radio DAB, USB, Bluetooth, MP3	o
Controls lock, switch	o
Controls lock, seat operator presence and switch	o
Controls lock, seatbelt sensor	o
Front guard OPG1 for canopy	o
Tool kit	o

STANDARD AND OPTIONAL EQUIPMENT	
Standard Equipment : •	
Optional Equipment : o	
<b>Machine exterior</b>	
LED worklights package	o
Green beacon link to safety belt	o
Heavy counterweight	o
Several level of customisation (RAL specifications) to match with your corporate identity	o
<b>Hydraulics</b>	
Relief valve for auxiliaries	o
Hydraulic drain for accessories	o
Second accessory circuit with proportional and adjustable controls	o
Kit 2 flat face hydraulic couplings	o
Kit 4 flat face hydraulic quick couplings	o
Double acting circuit for hydraulic quick couplers	o
Boom and arm safety lifting valves	o
Boom, arm and dozer blade safety lifting valves	o
Safety valve certification	o
Mineral hydraulic oil VG32	o
Mineral hydraulic oil VG46	o
Mineral hydraulic oil VG68	o
Bio hydraulic oil VG32 (PANOLIN®)	o
Bio hydraulic oil VG46 (PANOLIN®)	o
<b>Attachments</b>	
Volvo mechanical quick coupler (pin-on)	o
Lehnhoff® mechanical quick coupler	o
Symmetrical type mechanical quick coupler (S30)	o
General Purpose buckets	o
Fixed Ditching buckets	o
Tiltable Ditching buckets	o
<b>Charging solutions</b>	
Fast charger, 9.6 kW, indoor use	o
Fast charger, 17.3 kW, indoor use	o
Fast charger, 17.3 kW, outdoor use	o

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