

V O L V O



Volvo Compact Excavators 1.79-2.06 t

EC18 ELECTRIC

Volvo Construction Equipment

EC18 ELECTRIC

Low noise, zero emissions and an ergonomically designed cab make the EC18 Electric quiet, clean and comfortable.
A perfect fit for a modern work site.



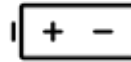
Small but tough

The EC18 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 six hours on 240V level 2 charging
- 10 to 80% in less than 55 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

- 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



Small but tough

- Overall minimum width of 995 mm with expendable undercarriage
- Ultra-short tail 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



Zero emission

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

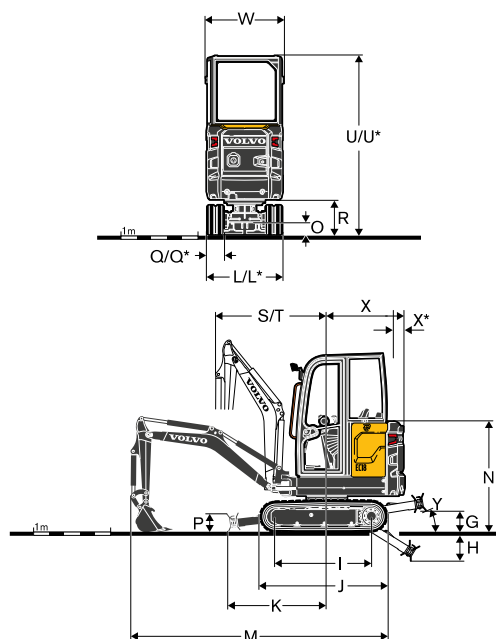
Volvo EC18 Electric in detail

Electrical system		
Battery Type	Lithium-ion	
Battery Voltage	V	48
Battery capacity	kWh	20
	Ah	450
Indicative runtime (depending on application)	hours	up to 6
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	2 400
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	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	1.6
Max. travel speed high	km/h	4.0
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	23
Maximum operating pressure	MPa	17
Weight and Ground Pressure		
Operating weight according to ISO 6016	kg	1 955
Ground pressure (cab)	kPa	28.9
Ground pressure (canopy)	kPa	27
Transport weight	kg	1 880
With rubber tracks	mm	230
With short arm	mm	950
With canopy	-kg	84
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



Specifications

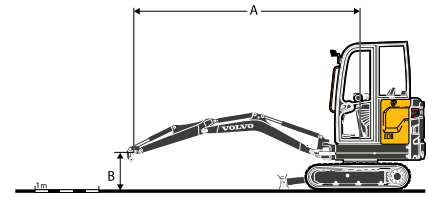


DIMENSIONS						
Description				Unit	EC18 Electric	
Arm				mm	950	1 150
A	Maximum cutting height			mm	3 439	3 582
B	Maximum dump height			mm	2 444	2 588
B*	Maximum bucket clearance			mm	2 482	2 625
C	Digging depth			mm	2 234	2 434
C*	Maximum digging depth			mm	2 500	2 700
D	Maximum vertical wall digging depth			mm	1 898	2 091
E	Maximum digging reach at ground level			mm	3 800	3 993
G	Highest position dozer blade		Short blade	mm	225	
			Long blade	mm	267	
H	Lowest position dozer blade		Short blade	mm	296	
			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	3 550	3 431
M*	Transport length (arm lowered)		Short blade	mm	3 810	3 824
			Long blade	mm	4 000	4 014
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	1 455	1 476
T	Front slew radius with maximum offset			mm	1 181	1 184
U	Overall height cab			mm	2 334	
U*	Overall height canopy			mm	2 298	
X	Tail slew radius			mm	1 018	
X*	Rear overhang (across tracks)			mm	342	
β ₁	Maximum boom offset to the right			mm	419	
β ₂	Maximum boom offset to the left			mm	525	

(1) Option

LIFTING CAPACITY EC18 Electric

These capacities are given for a machine equipped with a canopy, 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 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.



	Lifting point height (B) m		Lifting point radius (A)										Max. m
			1.5 m		2.0 m		2.5 m		3.0 m		Max reach		
			Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	Along UC	Across UC	
Arm: 950mm + Dozer blade up	2 m	kg	-	-	-	-	246*	246*	-	-	246*	246*	2.95
	1 m	kg	-	-	443*	443*	345*	345*	293*	293*	293*	293*	3.32
	0 m	kg	326*	326*	547*	547*	391*	391*	296*	296*	296*	296*	3.28
	-1 m	kg	634*	634*	429*	429*	310*	310*	-	-	310*	310*	2.81
Arm: 950mm + Dozer blade down	2 m	kg	-	-	-	-	246*	246*	-	-	246*	246*	2.95
	1 m	kg	-	-	443*	443*	345*	345*	293*	293*	293*	293*	3.32
	0 m	kg	326*	326*	547*	547*	391*	391*	296*	296*	296*	296*	3.28
	-1 m	kg	634*	634*	429*	429*	310*	310*	-	-	310*	310*	2.81
Arm: 950mm + Dozer blade down + Heavy counterweight	2 m	kg	-	-	-	-	196*	196*	-	-	196*	196*	3.17
	1 m	kg	-	-	367*	367*	310*	310*	276*	276*	243*	243*	3.52
	0 m	kg	383*	383*	552*	552*	390*	390*	299*	299*	299*	299*	3.48
	-1 m	kg	693*	693*	458*	458*	331*	331*	237*	237*	237*	237*	3.05
Arm: 1 150mm + Dozer blade up + Heavy counterweight	2 m	kg	-	-	-	-	196*	196*	-	-	196*	196*	3.17
	1 m	kg	-	-	367*	367*	310*	310*	276*	276*	243*	243*	3.52
	0 m	kg	383*	383*	552*	552*	390*	390*	299*	299*	299*	299*	3.48
	-1 m	kg	693*	693*	458*	458*	331*	331*	237*	237*	237*	237*	3.05
Arm: 1 150mm + Dozer blade down + Heavy counterweight	2 m	kg											3.17
	1 m	kg											3.52
	0 m	kg											3.48
	-1 m	kg											3.05









Attachments specifications

	Unit	General Purpose buckets								Aggressive Cut buckets			Ditching buckets				Hydraulic breaker HB02 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

Charging times EC18 Electric	Grid side				Charging socket	Machine side
	Electric power supply					
	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% : 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	 IEC60309	 Type 2	5h45 min
			13 A	 Type E  Type F  Type G		6h 30 min
			10 A			8h 30 min
			8 A			10h 30 min
			6 A			14h
			Charging station and wall box			



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 - 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
Plastic tank with drain plug
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

STANDARD EQUIPMENT
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
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
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
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
Robust 4-pillar structure canopy
Heated cab
Vinyl seat with mechanical suspension, extended back with lumbar adjustment and 2" orange retractable seatbelt
Fabric seat with mechanical suspension, extended back with lumbar adjustment and 2" orange retractable seatbelt
Electrical switch for ISO/SAE control pattern change
Radio, AUX, USB, Bluetooth
Radio DAB, USB, Bluetooth, MP3
Controls lock, switch
Controls lock, seat operator presence and switch
Controls lock, seatbelt sensor
Front guard OPG1 for canopy
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
Hydraulic drain for accessories
Second accessory circuit with proportional and adjustable controls
Kit 2 flat face hydraulic couplings
Kit 4 flat face hydraulic quick couplings
Double acting circuit for hydraulic quick couplers
Boom and arm safety lifting valves
Boom, arm and dozer blade safety lifting valves
Safety valve certification
Mineral hydraulic oil VG32
Mineral hydraulic oil VG46
Mineral hydraulic oil VG68
Bio hydraulic oil VG32 (PANOLIN®)
Bio hydraulic oil VG46 (PANOLIN®)

OPTIONAL EQUIPMENT
Digging equipment
Short arm
Long arm
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

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.

V O L V O