

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.



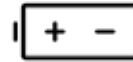
Small but tough

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

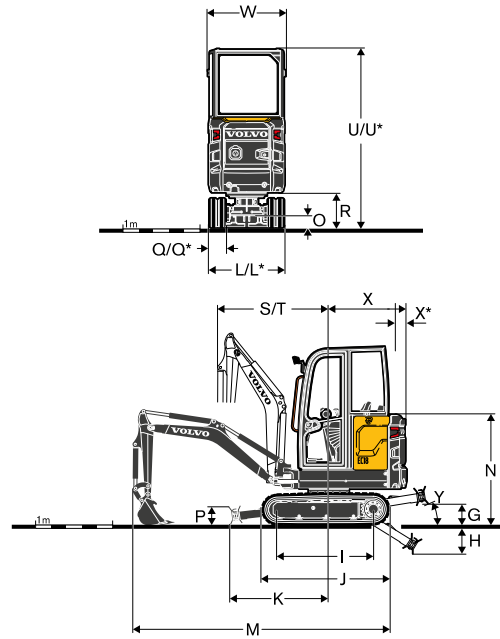
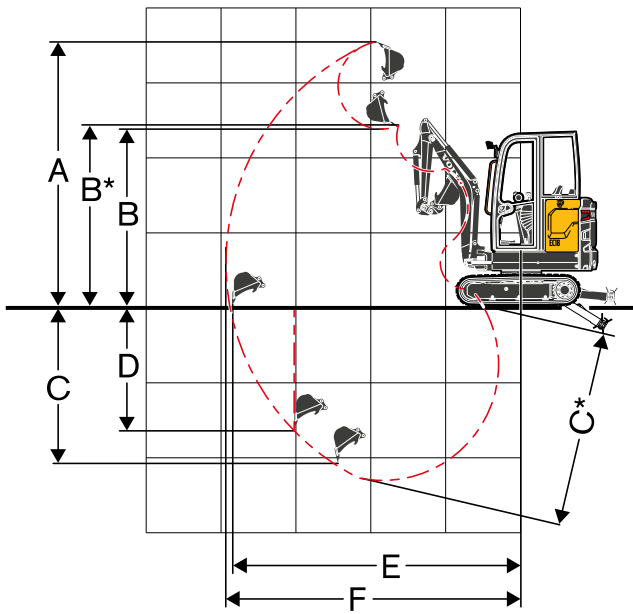
Volvo EC18 Electric in detail

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	2 550
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	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



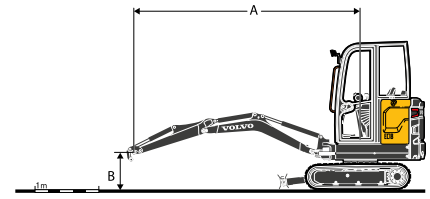
DIMENSIONS

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	
		Long blade	mm 4 000	
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 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

Charging times EC18 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% : 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		 Type 2	5h45 min
			13 A	 Type E		6h 30 min
			10 A			8h 30 min
			8 A			10h 30 min
			6 A	 Type F  Type G		14h
Charging station and wall box				 Type 2 AC  Type 2	5h45 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 - 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

- Cushioned 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

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