

FSA

Volvo Construction Equipment



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EW180E, EW220E

Volvo Excavators 18.7-20.8 t / 41,230-45,900 lb 173 hp, 20.3-23.4 t / 44,750-51,590 lb 173 hp





Spin on Engine Oil and Fuel Filters



Easily accessible Coolers for easy cleaning



Auto Lube System available



Easy Access for DEF and Fuel Filling

SUPERIOR SERVICEABILITY

It's easy to keep your machines up and running with simple serviceability. Find greasing points grouped together and filters placed behind wide-opening engine doors, to provide ground-level access to daily service checkpoints. Meanwhile, the pivoting AC condenser is fixed with two flexible latches, improving access to the mesh and radiators for cleaning, increasing component life.

Volvo EW180E in detail

Engine

Volvo Construction Equipment is ready to comply with the tough new Tier 4 Final legislation for off-road vehicles with the introduction of a cascade of innovations in its new generation engines with Volvo Advanced combustion technology (V-ACT). Volvo machines are equipped with in-line turbo charged diesel engine with high pressure unit injector system. The engine features a externally cooled exhaust gas re-circulation (E-EGR) , a Diesel Particulate Filter (DPF) and a Selective Catalytic Reduction(SCR) with Diesel Exhaust Fluid (DEF).

Engine	Volvo	D6J
Max. power at	r/min (r/s)	1,800 (30)
Net (ISO9249/SAEJ1349)	kW (hp)	126 (169)
Gross (ISO 14396/SAE J1995)	kW (hp)	129 (173)
Max. torque	Nm (ft lbf)	850 (627)
at engine speed	r/min (r/s)	1,350 (225)
No. of cylinders		6
Displacement	l (in³)	5.7 (348)
Bore	mm (in)	98 (3.9)
Stroke	mm (in)	126 (5)

Electrical system

High-capacity electrical system that is well protected. Waterproof double-lock harness plugs are used to secure corrosion-free connections. The main relays and solenoid valves are shielded to prevent damage. The master switch is standard.

Voltage	V	24
Batteries	V	2 x 12
Battery capacity	Ah	2 x 140
Alternator	V/Ah	28/120

Undercarriage

Drive train: A variable axle piston motor in combination with a power shift gearbox supplies 3 speeds. The gearbox distributes than the energy via propeller shafts to the axles.
Framework: All-welded robust torsion box frame.
Wheels: Alternative single and twin wheels available.
Front axle: Robust excavator axle with automatic or operator controlled front axle oscillation lock.
Undercarriage available with all possible combinations of bolted outriggers and / or parallel blade.

Oscillating	± °	10
with mudguards	± °	7
Twin wheels	type	10-20
Tractive force (net)	kN (lbf)	104 (23,380)
Travel speed, on road	km/h (mi/h)	20.0/30.0/35.0 (12.4 / 18.6 / 21.7)
Travel speed, off road	km/h (mi/h)	5.0/7.4/8.9 (3.1 / 4.6 / 5.5)
Travel speed, creep	km/h (mi/h)	3.7 (2.3)
Min. turning radius	m (ft)	7.6 (24.9)

Brake system

Service brakes: servo-hydraulically manoeuvred self-adjusting wet multidiscs with two separate brake circuits.
Parking brake: negative wet disc in gear housing, spring applied and pressure released.
Digging brake: service brake with mechanical lock system.
Security system: The 2-circuit travel brakes are supplied with two accumulators in the event of failure in the service brake system.

Cab

New design Volvo Care Cab with operator protective structure, large and roomy interior. One way travel pedal with rocker switch control (F-N-R) on the right joystick. One-touch release for digging brake pedal.
Audio system with remote control and Bluetooth system for hands free phoning. Independently adjustable joystick consoles.
Excellent all-round visibility provided by maximized cab class, transparent roof hatch, 2-piece sliding door window and long stroke, easy to adjust and narrow steering column. The liftable front windshield can easily be stored in the inside roof space and clipped in position. The removable lower front glass can be stored in the side door pocket. Interior lighting consists of one reading light and one light with timer.
The pressurized and filtered cab air is supplied by a 14-vent climate-control providing fast defrosting and high cooling and heating performance. Viscous/ spring mounted suspension cushions protect the operator from vibrations. Deluxe air-suspension seat with adjustable seat suspension, height, tilt, recline and forward-backward settings.(option)
Adjustable, easy to read 8.3" LCD color monitor provides real time information of machine functions and important diagnostic information and is switchable to rear view camera monitor(standard) / side view camera (option). A new multi function button on left hand joystick with programmable function to improve the operator comfort.
Refrigerant of the type R134a is used when this machine is equipped with air conditioning. Contains fluorinated greenhouse gas R134a, Global Warming Potential 1.430 t CO2-eq.

Hydraulic system

Closed-centre load sensing hydraulic system with pressure compensated valves. Load independence of movements. Flow sharing feature, combined with a high flow pump (power regulation). The system gives superior manoeuvrability and fast movements, for optimal working result and economy.
The following working modes are included in the system:
Parking mode (P): Parking position for optimal safety.
Travel mode (T): Engine speed is controlled by travel pedal stroke for low fuel consumption and noise.
Working mode (W): Full working flow with adjustable engine rpm for normal working and best speed utilisation.
Customer mode (C): Operator can set proper oil flow in accordance with job conditions.
Power Boost: All digging and lifting forces are increased.

Main pump (type low noise axial piston pump)

Max. flow	l/min (gal/min)	375 (99)
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Servo pump (type low noise gear pump)

Max. flow	l/min (gal/min)	15 (4)
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Brake + steering pump (Low noise gear pump)

Max. flow	l/min (gal/min)	48 (12.7)
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Relief valve setting pressure

Implement	MPa (psi)	34/37.5 (4,931/5,439)
Travel system	MPa (psi)	37.5 (5,439)
Slew system	MPa (psi)	23 (3,336)
Pilot system	MPa (psi)	3.5 (508)

Swing system

The superstructure is slewed by the means of a axial motor with reduction gear box. Automatic slew holding bake and anti-rebound valve are standard.

Max. slew speed	r/min	9
Max. slew torque	kNm (ft lbf)	54 (39,828)

Total Machine Weights

Machine with 5.2m / 17'1" mono boom, 2.45m / 8'0" dipper arm, quickfit S1, 590kg / 1,301lb - 890l / 235gal bucket.

With dozer blade front and outriggers rear	kg (lb)	19,900 (43,872)
With dozer blade rear only	kg (lb)	18,700 (41,226)
With front and rear outriggers	kg (lb)	20,220 (44,577)

Machine with 5.47m / 17'11" 2-piece boom, 2.45m / 8'0" dipper arm, quickfit S1, 590kg / 1,301lb - 890l / 235gal bucket.

With dozer blade front and outriggers rear	kg (lb)	20,500 (45,195)
With dozer blade rear only	kg (lb)	19,300 (42,549)
With front and rear outriggers	kg (lb)	20,820 (45,900)

Service Refill

Fuel tank	l (gal)	295 (77.9)
DEF/AdBlue® tank	l (gal)	25 (66)
Hydraulic system, total	l (gal)	300 (793)
Hydraulic tank	l (gal)	165 (436)
Engine oil	l (gal)	25 (66)
Engine coolant	l (gal)	33 (87)
Transmission	l (gal)	2.5 (0.66)

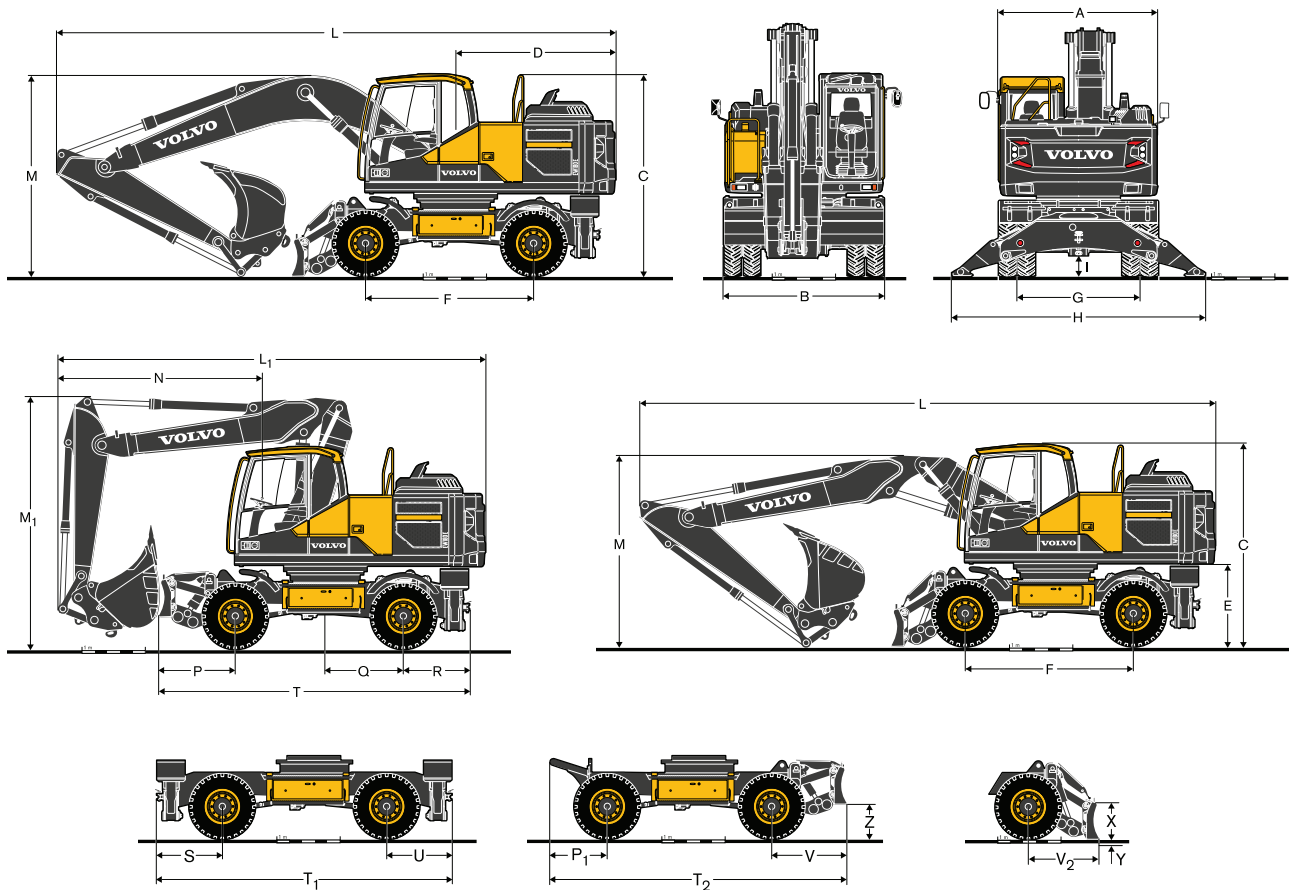
Axle differential:

Front axle	l (gal)	9.5 (2.5)
Rear axle	l (gal)	12.5 (3.3)

Sound Level

Sound level in cab according to ISO 6396		
LpA	dB(A)	70
External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC		
LwA (standard)	dB(A)	101
LwA (tropical)	dB(A)	102

Specifications



DIMENSIONS

Model		EW180E				EW220E			
Description	Unit	Mono boom		2-piece boom		Mono boom		2-piece boom	
	m ft in	5.2	17'1"	5.47	17'11"	5.7	18'8"	5.72	18'9"
A Overall width of superstructure	mm ft in	2,520	8'3"	2,520	8'3"	2,520	8'3"	2,520	8'3"
B Overall width for tires and blade	mm ft in	2,540 / 2,750	8'4" / 9'0"	2,540 / 2,750	8'4" / 9'0"	2,540 / 2,750	8'4" / 9'0"	2,540 / 2,750	8'4" / 9'0"
C Overall height of cab	mm ft in	3,190	10'6"	3,190	10'6"	3,190	10'6"	3,190	10'6"
D Tail slew radius	mm ft in	2,550	8'4"	2,550	8'4"	2,624	8'7"	2,624	8'7"
E Counterweight clearance	mm ft in	1,280	4'2"	1,280	4'2"	1,295	4'3"	1,295	4'3"
F Wheel base	mm ft in	2,650	8'8"	2,650	8'8"	2,750	9'0"	2,750	9'0"
G Tread	mm ft in	1,940	6'4"	1,940	6'4"	1,914 / 2,114	6'3" / 6'11"	1,914 / 2,114	6'3" / 6'11"
H Outrigger width (front or rear)	mm ft in	4,000	13'1"	4,000	13'1"	4,020	13'2"	4,020	13'2"
I Min. ground clearance	mm ft in	333	1'1"	333	1'1"	334	1'1"	334	1'1"

Gradeability, each direction 35 °

Working on slopes

In order not to jeopardise the lubrication of the engine, the machine must not be inclined more than 35 degrees in either direction. In addition it may be unsuitable to operate at this inclination as the machine may become unstable and unbalanced, depending on the load.

DIMENSIONS

Description	Unit		Mono boom EW180E								2-piece boom EW180E							
	m, ft in		5.2, 17'1"								5.47, 17'11"							
			Arm						Grab Arm		Arm						Grab Arm	
	m	ft in	2.45	8'0"	2.6	8'6"	3.0	9'10"	3.2*	10'6"	2.45	8'0"	2.6	8'6"	3.0	9'10"	3.2*	10'6"
L Overall length	mm	ft in	8,880	29'2"	8,870	29'1"	8,900	29'2"	8,830	28'12"	8,990	29'6"	8,990	29'6"	9,020	29'7"	8,860*	29'1"
M Overall height of boom	mm	ft in	3,220	10'7"	3,180	10'5"	3,480	11'5"	3,580	11'9"	3,220	10'7"	3,200	10'6"	3,340	10'11"	3,530*	11'7"
L1 Overall length	mm	ft in	-	-	-	-	-	-	-	-	6,870	22'6"	6,630**	21'9"	6,670**	21'11"	6,720*	22'1"
M1 Overall height of boom	mm	ft in	-	-	-	-	-	-	-	-	3,970	13'0"	3,940**	12'11"	3,940**	12'11"	3,950*	12'12"
N Front overhang	mm	ft in	-	-	-	-	-	-	-	-	3,280	10'9"	3,040**	9'12"	3,080**	10'1"	3,130*	10'3"
	Unit		Mono boom EW220E								2-piece boom EW220E							
	m, ft in		5.7, 18'8"								5.72, 18'9"							
			Arm						Grab Arm		Arm						Grab Arm	
	m	ft in	2.45	8'0"	2.6	8'6"	2.9	9'6"	3.2*	10'6"	2.45	8'0"	2.6	8'6"	2.9	9'6"	3.2*	10'6"
L Overall length	mm	ft in	9,500	31'2"	9,500	31'2"	9,480	31'1"	9,380	30'9"	9,500	31'2"	9,500	31'2"	9,460	31'0"	9,330*	30'7"
M Overall height of boom	mm	ft in	3,090	10'2"	3,140	10'4"	3,260	10'8"	3,520	11'7"	3,080	10'1"	3,130	10'3"	3,250	10'8"	3,460*	11'4"
L1 Overall length	mm	ft in	-	-	-	-	-	-	-	-	7,180	23'7"	7,140	23'5"	7,180**	23'7"	7,180*	23'7"
M1 Overall height of boom	mm	ft in	-	-	-	-	-	-	-	-	3,970	13'0"	4,000	13'1"	3,970**	13'0"	3,970*	13'0"
N Front overhang	mm	ft in	-	-	-	-	-	-	-	-	3,500	11'6"	3,460	11'4"	3,500**	11'6"	3,500*	11'6"

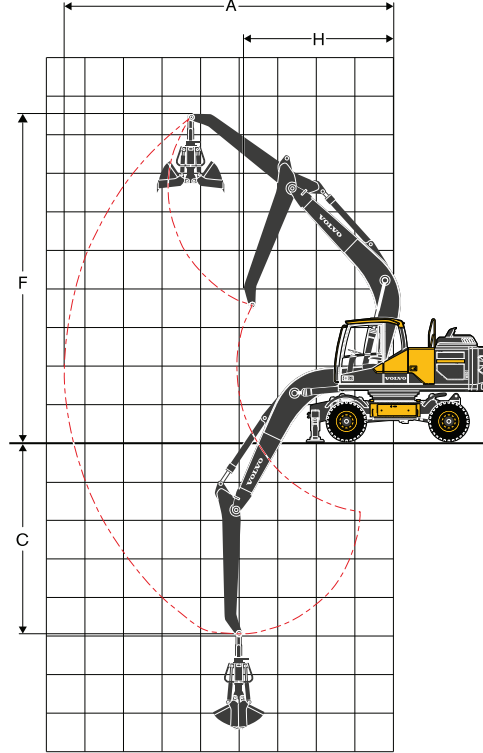
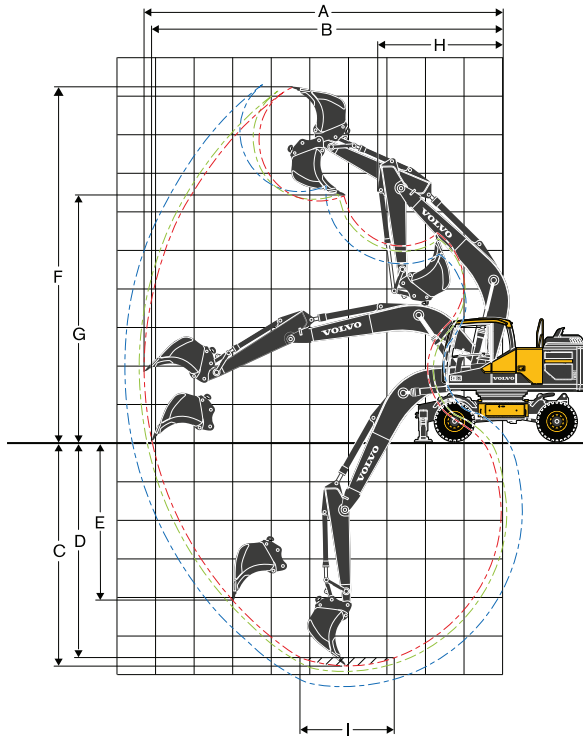
*grab arm, without clamshell bucket | ** without bucket

UNDERCARRIAGE DIMENSIONS

Description	Unit		EW180E				EW220E			
P	mm	ft in	1,210				1,290			
P1	mm	ft in	780				830			
Q	mm	ft in	1,220				1,370			
R/U	mm	ft in	1,040				1,070			
S	mm	ft in	1,130				1,160			
T	mm	ft in	4,900				5,320			
T1	mm	ft in	4,820				4,980			
T2	mm	ft in	4,560				4,780			
V	mm	ft in	1,130				1,200			
V2	mm	ft in	960				980			
X	mm	ft in	600				600			
Y	mm	ft in	155				120			
Z	mm	ft in	470				460			

Specifications

EW180E



WORKING RANGES WITH DIRECT FIT BUCKET

		Unit		5.2 m, 17'1" mono boom EW180E							
				Arm				Grab arm			
		m	ft in	2.45	8'0"	2.6	8'6"	3.0	9'10"	3.2	10'6"
A	Max. digging reach	mm	ft in	9,400	30'10"	9,530	31'3"	10,000	32'10"	8,420	27'7"
B	Max. digging reach on ground	mm	ft in	9,200	30'2"	9,350	30'8"	9,735	31'11"	-	-
C	Max. digging depth	mm	ft in	5,540	18'2"	5,690	18'8"	6,100	20'0"	4,680	15'4"
D	Max. digging depth (l=2.44m, 8'0" level)	mm	ft in	5,355	17'7"	5,510	18'1"	5,930	19'5"	-	-
E	Max. vertical wall digging depth	mm	ft in	4,700	15'5"	4,855	15'11"	5,235	17'2"	-	-
F	Max. cutting height	mm	ft in	9,720	31'11"	9,820	32'3"	10,070	33'0"	8,500	27'11"
G	Max. dumping height	mm	ft in	6,530	21'5"	6,630	21'9"	6,880	22'7"	-	-
H	Min. front slew radius	mm	ft in	2,990	9'10"	3,010	9'11"	3,050	10'0"	3,710	12'2"

DIGGING FORCES WITH DIRECT FIT BUCKET

Breakout force (bucket)	ISO	kN	lbf	132*	29,675*	132*	29,675*	132*	29,675*	-	-
Tearout force (arm)	ISO	kN	lbf	106*	23,830*	102*	22,931*	92*	20,682*	-	-

* with powerboost

Max. recommended sizes for direct fit buckets

GP-Bucket (1.8 t/m³ 3,034 lb/yd³)	l	gal	1,000	264	1,000	264	870	230	-	-
HD-Bucket (2.1 t/m³)	l	gal	700	185	700	185	700	185	-	-

Max. recommended sizes for quick fit buckets

S1/S70 QF GP-Bucket (1.8 t/m³ 3,034 lb/yd³)	l	gal	870	230	870	230	780	206	-	-
S1/S70 QF HD-Bucket (2.1 t/m³)	l	gal	700	185	700	185	700	185	-	-
UQF GP-Bucket (1.8 t/m³ 3,034 lb/yd³)	l	gal	870	230	870	230	780	206	-	-
UQF HD-Bucket (2.1 t/m³)	l	gal	700	185	700	185	620	164	-	-

Note: 1. Bucket size based on SAE-J296, heaped material with a 1:1 angle of repose. 2. "Max permitted sizes" are for reference only and are not necessarily available from the factory.

Equipment

STANDARD EQUIPMENT		
	EW180E	EW220E
Engine		
Turbocharged, 4 stroke Volvo diesel engine with water cooling, direct injection and charged air cooler that meets EU Stage IV emission requirements	•	•
Intake air pre-heater	•	•
ECO Mode	•	•
Fuel filter and water separator	•	•
Fuel filler pump: 50 l/min (13.2 gal/min) with automatic shut-off	•	•
Aluminium core radiator	•	•
Electric / Electronic control system		
Contronics-computerized monitoring and diagnostic system with visual and audio warning	•	•
Adjustable automatic idling system	•	•
One-touch power boost	•	•
Adjustable monitor	•	•
Safety stop/start function and master electrical disconnect switch	•	•
2 Frame mounted halogen lamps	•	•
Alternator, 120 A	•	•
Batteries, 2 x 12 V/140 Ah	•	•
Start motor, 24 V/5.5 kW	•	•
CareTrack via GSM	•	•
Rear view camera	•	•
Side view camera right hand side	•	•
Superstructure		
LED Rear lights with stop, tail lights and emergency flashers	•	•
Service walkway with anti-slip grating	•	•
Centralised lubricating point for slew bearing	•	•
Undercarriage		
2-speed power transmission plus creep speed	•	•
Oscillating front axle $\pm 9^\circ$ with out mudguards/ 6° with mudguards	•	•
2-circuit travel brakes	•	•
Maintenance-free propeller shafts	•	•
Hydraulic system		
Load sensing hydraulic system	•	•
Pressure relief system (servo accumulator)	•	•
Proportional controlled visco-clutch cooling fan	•	•
Hose rupture valve for boom and arm	•	•
Hydraulic long life oil ISO VG46	•	•

STANDARD EQUIPMENT		
	EW180E	EW220E
Cab and interior		
Volvo Care Cab with fixed roof hatch /ROPS	•	•
- Cup holder	•	•
- Door locks	•	•
- Safety glass, light tinted	•	•
- Floor mat	•	•
- Horn	•	•
- Large storage area	•	•
- Pull-up type front window	•	•
- Removable lower windshield	•	•
- Retractable seat belt	•	•
- Windshield wiper with washer and intermittent feature	•	•
Heater & air-conditioner, automatic	•	•
Hydraulic dampening cab mounts	•	•
Adjustable operator seat and joystick control console	•	•
Adjustable steering column	•	•
Hydraulic safety lock lever	•	•
Control joystick, with 5 switches each	•	•
Bluetooth	•	•
Radio with USB	•	•
Cab, all-weather sound suppressed, includes:	•	•
- Operator programable switch on joystick	•	•
- Sun shield, front, roof & rear	•	•
- Master ignition key	•	•
Digging equipment		
Attachment points for extra hydraulics	•	•
Centralised lubrication point	•	•

Equipment

OPTIONAL EQUIPMENT		
	EW180E	EW220E
Engine		
Diesel coolant heater with digital timer	•	•
Block heater, 240 V	•	•
Water separator with heater	•	•
Dust net	•	•
Reversible fan	•	•
Air inlet turbo pre-cleaning system	•	•
Micro- mesh and sealing for engine compartment	•	•
Tropical cooling	•	•
Automatic engine shutdown	•	•
Waste package	•	•
Electric / Electronic control system		
Remote controlled welcome light	•	•
Joystick steering/Comfort Drive Control (Road homologated)	•	•
Joystick steering/Comfort Drive Control without steering column (Not homologated for road use)	–	•
Multi-channel electric centre passage	•	•
Joystick Controlled Support (blade / outrigger function on LH joystick)	•	•
Travel alarm	•	•
LED beacon	•	•
Extra work lights: (LED or halogen)	•	•
- Cab rear 1 and counterweight 1	•	•
- Boom-mounted 2	•	•
- Cab front 2	•	•
LED cab light next to side camera	•	•
4 extra LED lights (2 on cab front extra and 2 on arm)	•	•
Cruise control	•	•
Anti-theft system	•	•
Tilting and rotating attachment preparation	•	•
LED beacon on cab and counterweight	•	•
Superstructure		
License plate preparation	•	•
Off road counterweight	–	•
Road homologated counterweight	–	•
Undercarriage		
Trailer Towing System	•	•
Twin tires 10.00 – 20 / 11.00 – 20	•	•
Single tires 18R – 19.5 / 620 / 40-22.5	•	•
Stone protection rings	•	•
Solid rubber tires 10.00-20 / 11.00-20	•	•
Front dozer blade and rear outriggers	•	•
Rear dozer blade	•	•
Front outriggers and rear dozer blade	•	•
4 outriggers	•	•
Grab holder	•	•
Mudguards, front/rear	•	•
Tool box, left hand side/right hand side	•	•
Drawer type toolbox	•	•
Travel speed 20 km/h (12.4 mi/h), 30 km/h (18.6 mi/h), 35 km/h (21.7 mi/h)	•	–
Travel speed : 20 km/h (12.4 mi/h), 25 km/h (15.5 mi/h), 30 km/h (18.6 mi/h)	–	•
Wide axle 2.75 m (9'0")	•	•
Automatic digging brake	•	•

OPTIONAL EQUIPMENT		
	EW180E	EW220E
Hydraulic system		
Boom float function	•	•
Boom suspension system	•	•
Hydraulic oil, biodegradable ISO VG32 and ISO 46	•	•
Hydraulic long life oil ISO VG32 and ISO VG68	•	•
Hydraulic equipment for:	•	•
Hammer & shears	•	•
Slope bucket/rotator	•	•
Grab/clam shell	•	•
Quick fit	•	•
Flow control	•	•
Flow and pressure control	•	•
Cab and interior		
Volvo Care Cab with openable PC roof hatch / ROPS	•	•
Proportional control joystick	•	•
L8 joystick	•	•
Hydraulic proportional pedal for attachment control	•	•
Falling object guard (FOG)	•	•
Cab mounted falling object protective structures (FOPS)	•	•
Rain shield, front	•	•
Sunlight protection, roof hatch (steel)	•	•
Safety net for front window	•	•
Lower wiper	•	•
Anti-vandalism kit	•	•
Second generation Steelwrist tiltrotator preparation	•	•
Volvo Smart View = a 360° camera system with 3 cameras	•	•
Ashtray	•	•
Lighter	•	•
Mechanical Fabric seat, with/or without heater	•	•
Air suspension seat with heater and X isolator	•	•
Luxury operator seat with aico and wide armrest	•	•
Hydraulically elevated cab	–	•
Digging equipment		
Booms:	•	•
- 5.2 m (17'1") monoblock	•	–
- 5.47 m (17'11") 2-piece boom	•	–
- 5.7 m (18'8") monoblock	–	•
- 5.72 m (18'9") 2-piece boom	–	•
Dipper arms:	•	•
- 2.45 m (8'0"), 2.6 m (8'6"), 3.0 m (9'10")	•	–
- 2.45 m (8'0"), 2.6 m (8'6"), 2.9 m (9'6")	–	•
- 3.2 m (10'6") grab arm	•	•
Hydraulic quick fit		
S-type system (S 1 / S70)	•	•
Universal system	•	•
Service		
Wheel chocks	•	•
Tool kit, daily maintenance	•	•
Automatic greasing system	•	•
Attachments		
Buckets, direct fit and quick fit:	•	•
- General Purpose bucket (GP)	•	•
- Heavy Duty bucket	•	•
- Slope bucket	•	•
Lifting eye	•	•
Tilt rotator Steelwrist	•	•



Volvo Construction Equipment

www.volvoce.com

Description	Article
Volvo EW180E GPE Wheel Excavator	EW180E
Mono boom	XW10124
Arm, 8'6" (2.6m)	XW10212
Linkage w/o lifting eye	XW10310
Twin 10.00 16PR Bridgestone	XW20111
Stone protect.rings T/wheels	XW20310
Blade front par, OR rear, bolt	XW20653
Tool box left hand side (including steps)	XW20810
Axles Standard 8'4" (2.55m)	XW20910
Axle locking plate 15mm	XW21010
Engine NA (MY 2019)	XW30113
35 km/h (22 mph) Equipment	XW30712
CareCab w/ opening hatch	XW40110
Seat, air suspension with heater	XW40212
Seat belt, 3 inch retractable	XW40313
Joystick, proportional	XW40412
Radio MP3&USB&Bluetooth	XW40714
Dust net for radiator and oil cooler	XW41114
Halogen work lights, mono boom	XW50111
Halogen work lights, cab front	XW50113
Travel alarm w/ 10 sec delay	XW50116
Standard travel lights, LED	XW50126
Additional camera on right hand	XW50128
Electrical center passage, 18 channels	XW50213
CareTrack, GSM/Satellite	XW50418
CareTrack Connectivity 4 yr Subscription	XW50611
Hydraulic long life oil ISO VG46	XW60116
X1, Breaker/Shear Piping	XW60245
Hydraulic proportional pedal	XW60615
X1 flow & pressure control	XW60411
Quick fit piping, SQF	XW60832
Pilot control pattern change	XW60910
Boom float hydraulics	XW60912
Manual, English	XW70322
Manual, safety	XW70344
Counterweight standard (7,055 lbs)	XW80110
Frame Lifetime Warranty	XW80342
No bucket w/ pins	XW8297918
41" Pin-on GP (V4) bucket, 1.05 yd, 4 30GPE teeth,	XW8293624



Volvo Construction Equipment North America
Warranty – Disclaimers – Limitations
Limited Warranty for Governmental / Municipalities

Volvo Construction Equipment North America (“Volvo CE”) hereby extends to its authorized dealers (“Dealer”) and the Dealer’s Governmental / Municipalities customers (“Customer”, and both Dealer and Customer are referred to herein as a “Buyer”), who purchase a new Volvo construction equipment machine (“Machine”) or new Volvo part (“Part”, both of which are referred to herein as a “Product”) from Volvo, the following limited warranty:

Subject to the exceptions and limitations set forth below, Volvo CE or Dealer will repair or replace any part of a new Machine or new Part which proves to be defective in material or workmanship during the following periods (the “Warranty Period”):

- Volvo wheel loaders: 12 months/2500 hours, whichever first occurs
- Volvo articulated haulers: 12 months/2500 hours, whichever first occurs
- Volvo hydraulic excavators: 12 months/2500 hours, whichever first occurs
- Volvo motor graders: 12 months/2500 hours, whichever first occurs
- Volvo compactors: 12 months/1500 hours, whichever first occurs
24 months unlimited hours on DD90 and larger compactors
- Volvo pavers: 12 months/1500 hours, whichever first occurs
24 months unlimited hours on 6000 / 7000 series pavers
- Volvo milling: 12 months/1500 hours, whichever first occurs
- Volvo compact wheel loaders (up to 100 net hp.): 12 months/unlimited hours
- Volvo skid steer loaders: 12 months/unlimited hours; Lifetime arm for one-sided
- Volvo compact hydraulic excavators (less than 11 metric tons): 12 months/unlimited hours
- Volvo backhoe loaders: 12 months/unlimited hours
- Volvo engines: 12 months/2500 hours, whichever first occurs
- Volvo parts: 6 months/1500 hours, whichever first occurs
- Volvo remanufactured components: 12 months/2500 hours, whichever first occurs
- Volvo Attachments: 12 months

The Warranty Period commences immediately following the delivery of said Product to the Buyer who first puts said Product into use. The foregoing limited warranty shall include the labor cost to accomplish the repair or replacement of the defective part provided that the repair or replacement was performed by a Dealer.

The foregoing warranty does not cover: (i) any Product found to have been damaged by abuse, accident, other casualty or a failure to maintain or use the warranted Product in accordance with the applicable manuals or instructions (Buyer is required to use only original equipment manufacturer filters during the Warranty Period); (ii) the labor costs to repair or replace defective Parts after the expiration of the Warranty Period of the Machine in which such Part is located; (iii) overtime labor premiums; (iv) costs and expenses associated with the transportation of Dealer’s service personnel to and from the location of the warranted Product; (v) any parts, components, attachments or accessories for which Buyer receives a separate warranty by the manufacturer or producer thereof (in specified cases said warranty may be administered by Volvo CE); (vi) maintenance items or ground engaging parts that have achieved their normal service life.

DISCLAIMER OF IMPLIED WARRANTIES AND LIMITATION OF REMEDIES

THE FOREGOING WARRANTY TO BUYER IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, AND THERE IS NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

REMEDIES AVAILABLE TO BUYER ARE LIMITED TO MAKING A CLAIM UNDER THE FOREGOING WARRANTY AND ARE EXCLUSIVE AND EXPRESSLY LIMITED TO OBTAINING THE PARTS AND LABOR IN ACCORDANCE WITH THE TERMS OF SAID WARRANTY.

Warranty – Disclaimers – Limitations

LIMITATIONS OF LIABILITY AND DAMAGES

Regardless of whether a claim against Volvo CE or Dealer is based on the foregoing warranty or is an action in contract, tort (negligence or strict liability) or otherwise, their respective liability for losses, damages or expenses of any kind arising from the design, manufacture, repair or sale of the Products is limited, unless otherwise prohibited by law, to an amount not exceeding the cost performing the obligations contained in the foregoing warranty, and in no event shall their respective or joint liability exceed the value of the Product or part thereof giving rise to such liability.

CONSEQUENTIAL AND SIMILAR DAMAGES NOT RECOVERABLE

Except for performing the obligations of the foregoing warranty in accordance with its terms, Volvo CE and Dealer shall have no liability for loss, damage, or expense, directly or indirectly, attributable to a loss of use of a Product, loss or damage to property other than the Product, loss or damage to the Product or any part thereof or any other economic or commercial loss, including, without limitation, lost profits or special or consequential damages (except liability for any type of consequential damages which by law may not be disclaimed). The parties intend that this prohibition against consequential and similar damages will survive and be effective even if the limitation of remedies in the foregoing sections is found to fail of its essential purpose under section 2-719 of the Uniform Commercial Code.

ALLOCATION OF RISK

The foregoing warranty disclaimers, limitations of liability and limitation of remedies are bargained allocations of risks among (i) the Customer who purchased the Product; (ii) the Dealer who sold the Product, and (iii) Volvo CE, which is a third party beneficiary of the contract of sale between the Customer and the Dealer. The Buyer of the Product accepts the foregoing warranty and the other bargained for allocations of risk as part of the agreed price for the purchase of the Product to which the foregoing warranty applies. Volvo CE is prepared to offer different warranties and other allocations of risk for other prices. However, any such change in the warranty or the allocation of risks must be confirmed in writing by Volvo CE.

STATUTE OF LIMITATIONS

Any action by a Buyer of a Product for breach of contract, for breach of warranty arising under, or for a cause of action arising out of the sale of a Product, whether based on contract, tort (negligence or strict liability) or otherwise, shall be commenced within one (1) year after the cause of action has accrued. Any such cause of action shall be deemed to have accrued at the earlier of (i) the discovery of the defect or breach, or (ii) the expiration of the applicable Warranty Period.