

Volvo EW60E in detail

Engine

The new engine which provides excellent performance is equipped with a four-cylinder, vertical, electronic controlled high pressure fuel injectors, in-line turbo charger water cooled diesel engine. This engine fully meets the demands of the latest Tier 4f (Stage IIIB) emissions regulations.

Engine	Volvo	D2.6H
Max. power at	r/min (r/s)	2 400 (40)
Net (ISO9249/SAE1349)	kW (hp)	45.2 (60.6)
Gross (ISO 14396/SAE J1995)	kW (hp)	47.3 (63.4)
Max. torque	Nm (ft lbf)	222 (163)
at engine speed	r/min (r/s)	1 500 (25)
No. of cylinders		4
Displacement	l (in ³)	2.6 (160)
Bore	mm (in)	87 (3.4)
Stroke	mm (in)	110 (4.3)

Electrical system

Voltage	V	12
Batteries	V	1 x 12
Battery capacity	Ah	100
Alternator	V/Ah	12/90
Start motor	V - kW	12 - 2.5

Undercarriage

Drive train: One single variable axial-piston motor mounted to the two-step, Power Shift gearbox gives power to front and rear axles.
Framework: All-welded robust torsion box frame.

Front axle: Robust excavator axle with automatic or operator controlled front axle oscillation lock.

Oscillating	± °	5
with mudguards	± °	5
Tire	type	12-16.5 12PR
Tractive force (net)	kN (lbf)	29 (6,519)
Travel speed, on road	km/h (mi/h)	30 (18.6)
Travel speed, off road	km/h (mi/h)	20 (12)
Travel speed, creep	km/h (mi/h)	10 (6.2)
Min. turning radius	m (ft)	5.1 (16.7)

Travel speeds may depend on to local regulations

Brake system

Service brakes: servo-hydraulically actuated self-adjusting wet multidiscs.

Parking brake: negative wet disc in gear housing, spring applied and pressure released.

Digging brake: service brake with mechanical lock system.

Swing system

The swing system is feed from the hydraulic system, eliminating the need for any additional maintenance to gear oil replenishing.

Built-in parking brake: Parking brake is built into the hydraulic motor, enabling safer parking on an incline.

Shockless function: Pressure relive valves are fitted into the swing circuit to eliminate shocks for smooth operation when changing direction.

Max. slew speed	r/min	10
Max. slew torque	kNm (ft lbf)	11.6 (8,556)

Cab

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

Sound Level

Sound level in cab according to ISO 6396

LpA	dB(A)	78
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External sound level according to ISO 6395 and EU Noise Directive 2000/14/EC

LwA	dB(A)	97
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Hydraulic system

Open-center, negative hydraulic system providing accurate controllability.

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 and mode selection switch for low fuel consumption and noise. Work equipment are not able to move at this mode for optimal safety.

Working mode (W): Full working flow with adjustable engine rpm for normal working and best speed utilisation.

Main pump (Type: Variable-displacement pump)

Max. flow	l/min (gal/min)	2 x 60 (2 x 15.9)
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Pilot pump (Type: Gear pump)

Max. flow	l/min (gal/min)	1 x 21.4 (1 x 5.7)
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Swing + steering pump (Type: Low noise gear pump)

Max. flow	l/min (gal/min)	1 x 38.9 (1 x 10.3)
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Relief valve setting pressure

Implement	MPa (psi)	23 (3,263)
Travel system	MPa (psi)	23 (3,263)
Slew system	MPa (psi)	19 (2,698)
Pilot system	MPa (psi)	3.1 (454)

Hydraulic Cylinders

Boom		1
Bore x Stroke	ø x mm (ø x in)	110 x 707 (4.3 x 27.8)
Arm		1
Bore x Stroke	ø x mm (ø x in)	90 x 813 (3.5 x 32)
Bucket		1
Bore x Stroke	ø x mm (ø x in)	80 x 660 (3.1 x 26)
Dozer blade		1
Bore x Stroke	ø x mm (ø x in)	105 x 230 (4.1 x 9.1)
Boom swing		1
Bore x Stroke	ø x mm (ø x in)	90 x 570 (3.5 x 22.4)

Service Refill

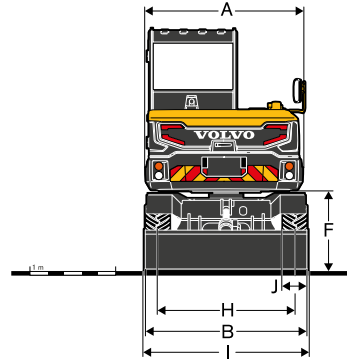
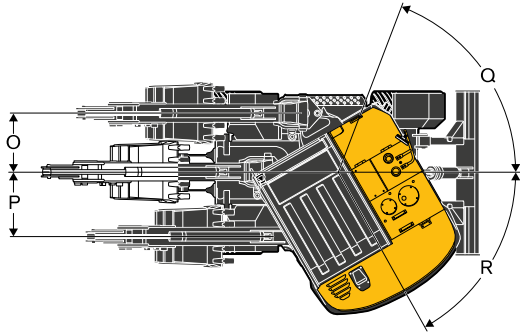
Fuel tank	l (gal)	105 (27.7)
Hydraulic system, total	l (gal)	120 (31.7)
Hydraulic tank	l (gal)	76 (20.1)
Engine oil	l (gal)	11 (2.9)
Engine coolant	l (gal)	10 (2.6)
Transmission	l (gal)	1.7 (0.4)
Axle differential:		
Front axle	l (gal)	6.3 (1.7)
Rear axle	l (gal)	8 (2.1)

Total Machine Weights

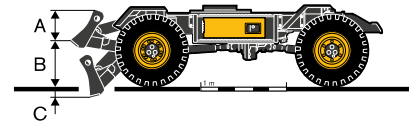
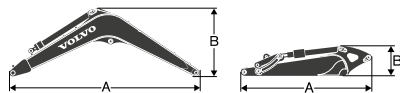
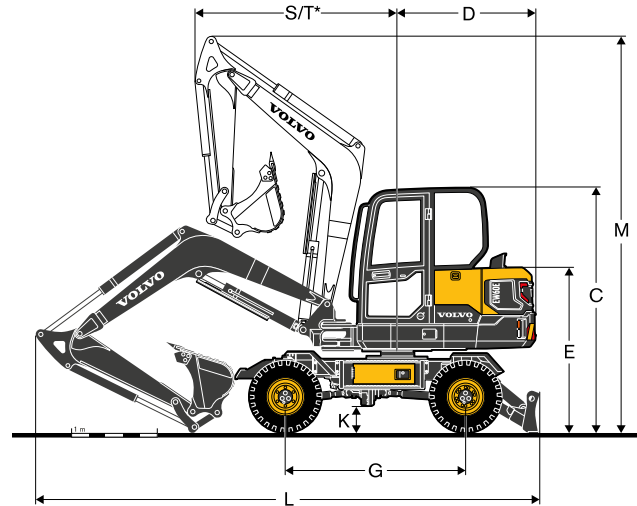
Machine with 2.9m / 9'6" boom, 1.6m / 5'3" arm, 0.142m³ / 37.5gal bucket, standard counterweight, dozer blade, without quick coupler and 75kg operator weight

With dozer blade	kg (lb)	5 880 (12,970)
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Specifications



DIMENSIONS		Unit		EW60E	
Boom		m	ft in	2.9	9'6"
Arm		m	ft in	1.6	5'3"
A	Overall width of upper structure	mm	ft in	1 845	6'1"
B	Overall width	mm	ft in	1 930	6'4"
C	Overall height of cab	mm	ft in	2 855	9'4"
D	Tail swing radius	mm	ft in	1 650	5'5"
E	Overall height of engine hood	mm	ft in	1 901	6'3"
F	Counterweight clearance	mm	ft in	960	3'2"
G	Wheel base	mm	ft in	2 100	6'11"
H	Tread width	mm	ft in	1 595	5'3"
I	Dozerblade width	mm	ft in	1 930	6'4"
J	Tire width	mm	ft in	305	1'0"
K	Min. ground clearance	mm	ft in	295	1'0"
L	Overall length	mm	ft in	5 869	19'3"
M	Overall height of boom raise	mm	ft in	4 599	15'1"
S	Front swing radius	mm	ft in	2 352	7'9"
T*	Front swing radius(Max. offset)	mm	ft in	1 386	4'7"
O	Boom swing distance	mm	ft in	756	2'6"
P	Boom swing distance	mm	ft in	863	2'10"
Q	Boom swing angle	°		70	
R	Boom swing angle	°		60	



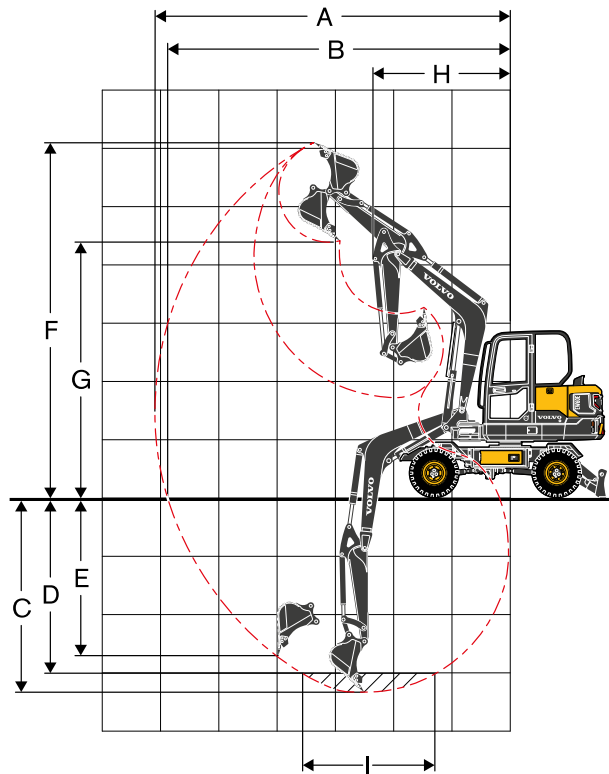
DIMENSIONS	Unit		Boom		Arm	
	m	ft in	2.9	9'6"	1.6	5'3"
A Length	mm	ft in	3 008	9'10"	2 102	6'11"
B Height	mm	ft in	1 159	3'10"	488	1'7"
Width	mm	ft in	336	1'1"	300	1'0"
Weight	kg	lb	349	770	206	450

Boom * Includes cylinder, piping and pin, excludes boom cyl. Pin

Arm * Includes cylinder, linkage and pin

DIMENSIONS		Unit		Dozer blade	
A	Height	mm	ft in	465	1'6"
	Width	mm	ft in	1 930	6'4"
B	Lifting height	mm	ft in	440	1'5"
C	Digging depth	mm	ft in	140	0'6"

Specifications



WORKING RANGES

Description	Unit			
	m	ft in		
Boom			2.9	9'6"
Arm			1.6	5'3"
A Max. digging reach	mm	ft in	6 024	19'9"
B Max. digging reach on ground	mm	ft in	5 810	19'1"
C Max. digging depth	mm	ft in	3 292	10'10"
D Max. digging depth (l=2.44m/8'0" level)	mm	ft in	2 905	9'6"
E Max. vertical wall digging depth	mm	ft in	2 368	7'9"
F Max. cutting height	mm	ft in	6 007	19'8"
G Max. dumping height	mm	ft in	4 443	14'7"
H Min. front swing radius	mm	ft in	2 350	7'9"

DIGGING FORCES WITH DIRECT FIT BUCKET

Breakout force (bucket)	SAE J1179	kN	lbf	37.7	8,475
	ISO 6015	kN	lbf	43.3	9,734
Tearout force (arm)	SAE J1179	kN	lbf	28.2	6,340
	ISO 6015	kN	lbf	28.8	6,474
Rotation angle, bucket			°	196	

Equipment

STANDARD EQUIPMENT

Engine

Low-emission Volvo T4 diesel engine

Standard cooling system

Two-stage air filter

Fuel filter and water separator

Alternator, 90 A

Electric / Electronic control system

Safe engine start function

Automatic idling system

Engine auto shut down

Halogen working lights;

Cab-mounted 1 (Front), Boom-mounted 1 (LH)

Battery, 12 V / 100 Ah

Start motor, 12 V / 2.5 kW

Monitor and keypad

Master electrical disconnect switch

Electric dozer blade switch on joystick

Pattern change valve

Travel alarm

Frame

Rearview mirror

350kg (772lb) counterweight

Under cover

Dozer blade

Undercarriage

Tyre: 12.00-16.5 12PR

Hydraulic system

Automatic two speed travel motors

Cylinder cushioning

Hydraulic fluid mineral 46

Travel motor 30km/h (18.6mi/h)

Hydraulic piping:

Breaker & shear (X1 Double Acting)

Cab and Interior

Cab

Fabric operator seat with suspension

Seat belt, 3 inch retractable

Climate control with Air conditioning

Control joystick

Master key

Digging equipment

Boom: 2.9m (9'6"), Arm: 1.6m (5'3")

Offset boom

Linkage

Service

Tool kit-daily maintenance

OPTIONAL EQUIPMENT

Engine

Water separator (With heater)

Electric / Electronic control system

Fuel filler pump: 35 l/min (9.3gal/min), with automatic shut-off

Halogen extra working lights;

Cab-mounted 1 (Rear)

Boom-mounted 1 (RH)

Caretrack

Rotating warning beacon

Rearview Camera

LED Light

Hydraulic system

Hydraulic piping:

Breaker (X1 Single Acting)

Slope & rotator (X3)

Grapple

Quick coupler

Hose rupture valve for boom, arm

Overload warning device

Hydraulic oil, ISO VG 32, 68

Hydraulic oil, biodegradable 46

Hydraulic oil, longlife oil 32, 46, 68

Travel motor 20km/h (12.4mi/h)

Cab and Interior

Fabric operator seat with suspension with heater

PVC operator seat with suspension

Seat belt, 2 inch retractable

Radio with MP3/AUX/Bluetooth

Mechanical hour meter

Cab mounted FOG (Falling Object Guard)

FOPS (Falling Object Protection Structure)

Sun screen, front/roof

Safety net

Digging equipment

Fixed boom

Service

Tool kit, full scale

Spare parts