



Volvo Construction Equipment

EW160E

Volvo Excavators 16.2-18.2 t 115 kW





Volvo EW160E in detail

Engine

Volvo Construction Equipment is ready to comply with the tough new EU Stage IV 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 AdBlue.

| | | |
|-----------------------------|-------------|-------------|
| Engine | VOLVO D6J | |
| Max power at | r/s / r/min | 32 / 1 900 |
| Net (ISO9249/SAEJ1349) | kW / hp | 112 / 152 |
| Gross (ISO 14396/SAE J1995) | kW / hp | 115 / 156 |
| Max. torque at | Nm / r/min | 716 / 1 400 |
| No. of cylinders | | 6 |
| Displacement | l | 5.7 |
| Bore | mm | 98 |
| Stroke | mm | 126 |

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 / A | 28 / 120 |
| Alternator rating | V / kW | 28 / 3.36 |

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 | ° | ± 9 |
| Oscillating with mudguards | ° | ± 6 |
| Twin wheels | type | 10.00-20 |
| Max. tractive force (net) | kN | 111 |
| Travel speed, on road | km/h | 20.0 / 30.0 / 35.0 |
| Travel speed, off road | km/h | 5.0 / 7.4 / 8.7 |
| Travel speed, creep | km/h | 4 |
| Min. turning radius | m | 7.3 |

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.

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 dB(A) 100

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.

Hydraulic pumps

Main pump

| | | |
|-----------|-----------------------------|-----|
| Type | Low noise axial piston pump | |
| Max. flow | l/min | 275 |

Brake + steering pump

| | | |
|-----------|---------------------|----|
| Type | Low noise gear pump | |
| Max. flow | l/min | 36 |

Servo pump

| | | |
|-----------|---------------------|----|
| Type | Low noise gear pump | |
| Max. flow | l/min | 15 |

Relief valve setting

| | | |
|---------------|-----|-----------|
| Implement | MPa | 34 / 37.5 |
| Travel system | MPa | 37.5 |
| Pilot System | MPa | 3.5 |

Brakes

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.

Total machine weights

| | | |
|---|----|--------|
| Machine with 5.0 m monoblock boom, 2.45 m dipper arm, quickfit S6, 530 kg / 780 l bucket. Standard counterweight. | | |
| Dozer blade front and outriggers rear | kg | 17 250 |
| Dozer blade rear only | kg | 16 200 |
| Front and rear outriggers | kg | 17 500 |
| Machine with 5.1 m 2-piece boom, 2.45 m dipper arm, quickfit S6, 530 kg / 780 l bucket. Standard counterweight | | |
| Dozer blade front and outriggers rear | kg | 17 600 |
| Dozer blade rear only | kg | 16 550 |
| Front and rear outriggers | kg | 17 850 |

Service refill capacities

| | | |
|-----------------------------------|---|---------|
| Fuel tank | l | 250 |
| AdBlue tank | l | 25 |
| Hydraulic system, total | l | 250 |
| Hydraulic tank | l | 123 |
| Engine oil | l | 25 |
| Engine coolant | l | 33 |
| Transmission | l | 2.5 |
| Axle differential: (Axle housing) | | |
| Front axle | l | 9.5 |
| Rear axle | l | 12.5 |
| Final drive, wet disc type | l | 4 x 2.5 |

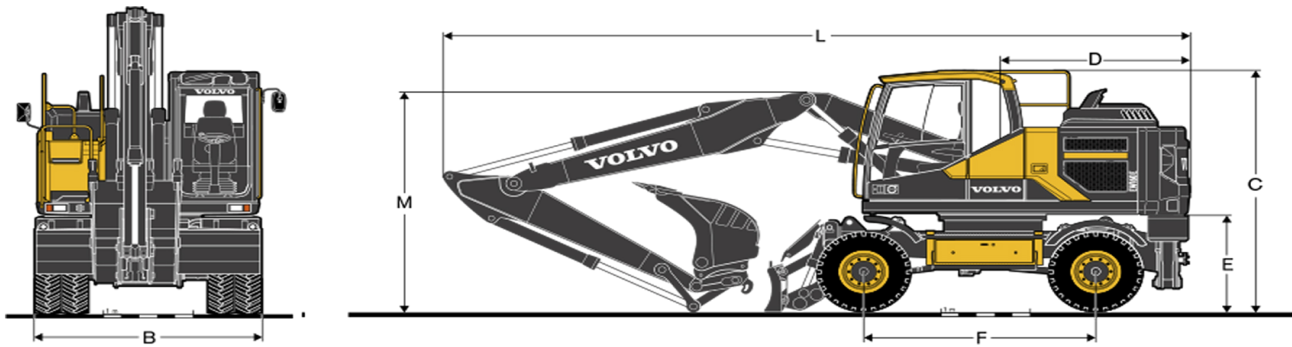
Slew system

The superstructure is slewed by the means of a radial piston motor without reduction gear.

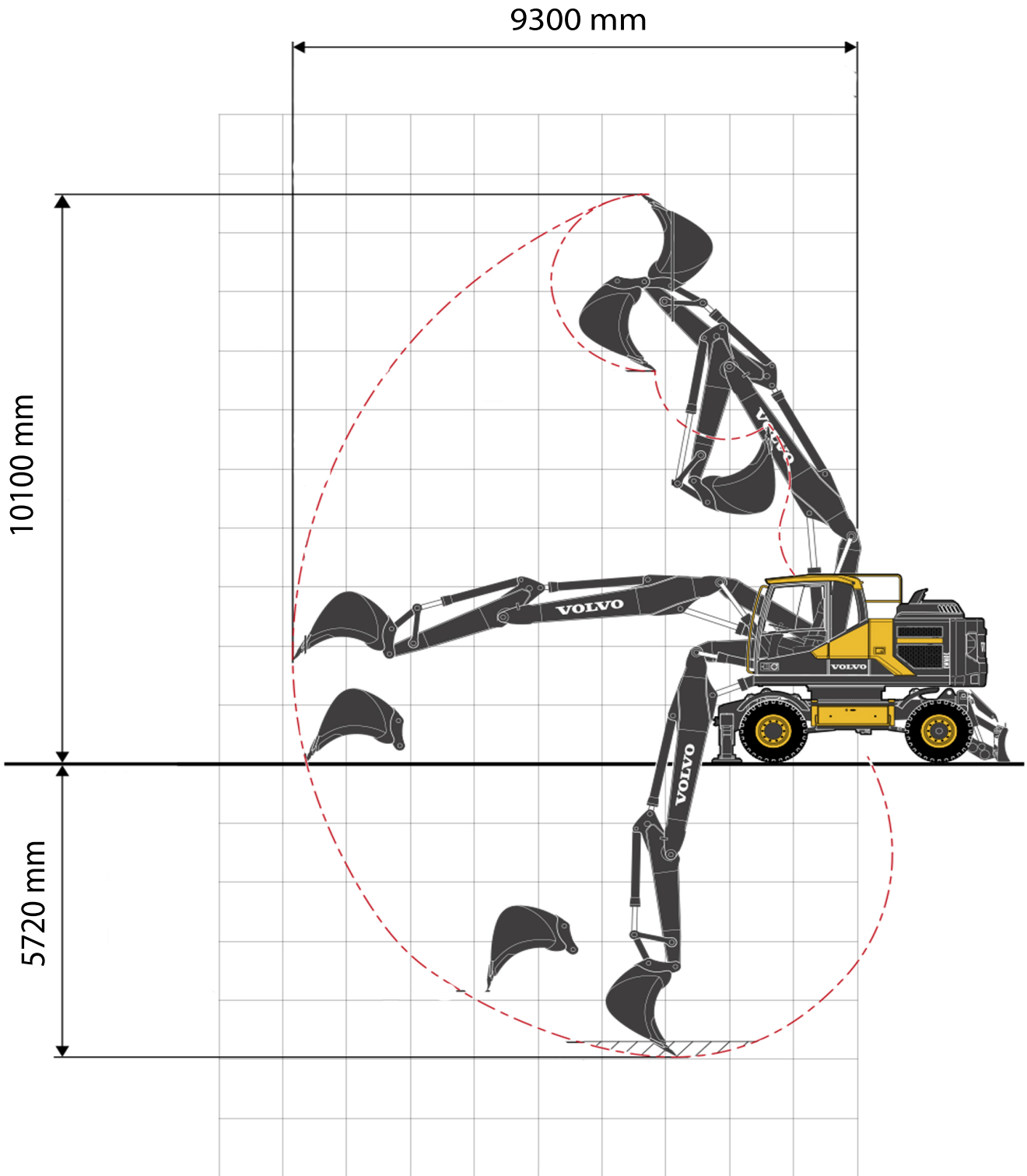
Automatic slew holding brake and anti-rebound valve are standard.

| | | |
|------------------|-----|------|
| Max slew speed | rpm | 9 |
| Max. slew torque | kNm | 50.4 |

Dimensions



| Description | Unit | 2-piece boom | |
|---------------------------------------|------|---------------|-------|
| | m | 5.1 | |
| A Overall width of superstructure | mm | 2 520 | |
| B Overall width | mm | 2 540 / 2 750 | |
| C Overall height of cab | mm | 3 140 | |
| D Tail slew radius | mm | 2 150 | |
| E Counterweight clearance | mm | 1 260 | |
| F Wheel base | mm | 2 600 | |
| G Tread | mm | 1 940 | |
| H Outrigger width (front or rear) | mm | 3 980 | |
| I Min. ground clearance | mm | 360 | |
| Description | Unit | Mono boom | |
| | m | 5.0 | |
| | m | Grab Arm | |
| L Overall length | mm | 2.95* | 2.45 |
| M Overall height of boom | mm | 3 155* | 3 040 |
| L ₁ Overall length | mm | - | - |
| M ₁ Overall height of boom | mm | - | - |
| N Front overhang | mm | - | - |





LIFTING CAPACITY EW160E with heavy counterweight

At the arm end, without bucket and quick fit. For lifting capacity including bucket/quick fit, simply subtract actual weight of those parts from the following values. With heavy counterweight. Unit: 1 000kg

| | | Reach from machine centre (u = support up/d = support down) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|--|-----|----------|---|-----------|------|----------|------|-----------|-----|----------|------|-----------|------|----------|------|-----------|-----|----------|------|-----------|-----|----------|------|------|------|------|------|------|
| | | 1.5 m | | | | 3.0 m | | | | 4.5 m | | | | 6.0 m | | | | 7.5 m | | | | Max. | | | | | | | | |
| | | Across UC | | Along UC | | Across UC | | Along UC | | Across UC | | Along UC | | Across UC | | Along UC | | Across UC | | Along UC | | Across UC | | Along UC | | Max. | | | | |
| Lifting point | m | u | d | u | d | u | d | u | d | u | d | u | d | u | d | u | d | u | d | u | d | u | d | u | d | m | | | | |
| | | 2-piece Boom: 5.1m Dipper Arm: 2.6m Front dozer blade Rear outriggers | 7.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.5 | 3.7* | 3.7* |
| 6 | - | | - | - | - | - | - | - | - | - | - | - | - | 2.8 | 4.1* | 4.1* | 4.1* | - | - | - | - | - | - | - | - | 2.4 | 3.2* | 3.2* | 3.2* | 6.5 |
| 4.5 | - | | - | - | - | - | - | - | - | - | 4.3 | 4.8* | 4.8* | 4.8* | 2.8 | 4.4* | 4.3 | 4.4* | - | - | - | - | - | - | 2 | 3.1* | 3.1 | 3.1* | 7.3 | |
| 3 | - | | - | - | - | - | - | - | - | - | 4 | 6.2* | 6.2* | 6.2* | 2.6 | 4.5 | 4.1 | 4.9* | 1.8 | 3.2 | 2.9 | 4.3* | 1.8 | 3 | 2.8 | 3.1* | 3.1* | 7.7 | | |
| 1.5 | - | | - | - | - | - | - | - | - | - | 3.7 | 6.7 | 6.1 | 7.5* | 2.5 | 4.3 | 4 | 5.5* | 1.8 | 3.1 | 2.8 | 4.6* | 1.7 | 2.9 | 2.7 | 3.3* | 7.8 | | | |
| 0 | - | | - | - | - | 4.7* | 4.7* | 4.7* | 4.7* | 3.5 | 6.5 | 5.9 | 8.2* | 2.4 | 4.2 | 3.8 | 6* | 1.7 | 3.1 | 2.8 | 4.3* | 1.7 | 3 | 2.8 | 3.6* | 7.6 | | | | |
| -1.5 | - | | - | - | - | 6.3 | 9.1* | 9.1* | 9.1* | 3.4 | 6.4 | 5.8 | 8.2* | 2.3 | 4.2 | 3.8 | 6* | - | - | - | - | 1.9 | 3.4 | 3.1 | 4.3* | 7 | | | | |
| -3 | - | | - | - | - | - | - | - | - | 3.5 | 6.5 | 5.9 | 7.3* | - | - | - | - | - | - | - | - | 2.4 | 4.3 | 4 | 5.2* | 5.9 | | | | |
| -4.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |

Notes: 1. Working pressure with Power Boost = 37.5 MPa. 2. The above values are in compliance with ISO standard 10 567. They do not exceed 87 % of hydraulic lifting capacity or 75 % of tipping load, with the machine on firm, level ground. 3. Load capacities marked with an asterisk (*) are limited by machine's hydraulic lifting capacity rather than tipping load.



Equipment

STANDARD EQUIPMENT

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- Modus

Fuel filter and water separator

Fuel filler pump: 50 l/min with automatic shut-off

Aluminium core radiator

Electric/Electronic control system

Contronics-computerized monitoring and diagnostic system

Master electrical disconnect switch

Adjustable automatic idling system

One-touch power boost

Adjustable monitor

Safety stop/start function

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 or satellite

Rear view camera

Undercarriage

3 speeds (creep / offroad / road speed up to 35 km/h

Oscillating front axle $\pm 9^\circ$ with out mudguards/ 6° with mudguards

2-circuit travel brakes

Maintenance-free propeller shafts

Superstructure

LED Rear lights

Service walkway with anti-slip grating

Centralised lubricating point for slew bearing and boom

Digging equipment

Attachment points for extra hydraulics

Centralised lubrication point for arm and bucket

Cab and interior

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

Sun shield, front, roof & rear

Bluetooth radio with USB port

Master ignition key

Multi function switch on LH Joystick

Hydraulic system

Load sensing hydraulic system

Cylinder cushioning

Cylinder contamination seals

Return filter of full flow type 2 000 h exchange interval

Pressure relief system (servo accumulator)

Proportional controlled visco-clutch cooling fan

Hose rupture valve for boom and arm

Hydraulic long life oil ISO VG 46