

VOLVO COMPACT EXCAVATOR

EW50



- **Net Power:**
D.80/1269 CEE: 33.7 kW / 45.8 hp

- **Operating Weight:**
5190 - 5295 kg

- **Bucket Capacities:**
70 - 231 l.

- **Maximum Digging Depth:**
3130 - 3530 mm

- **Load Sensing Hydraulic System** for very precise controls under all load conditions.

- **Simultaneous digging movements and high speed operations** for faster cycle times and increased productivity.

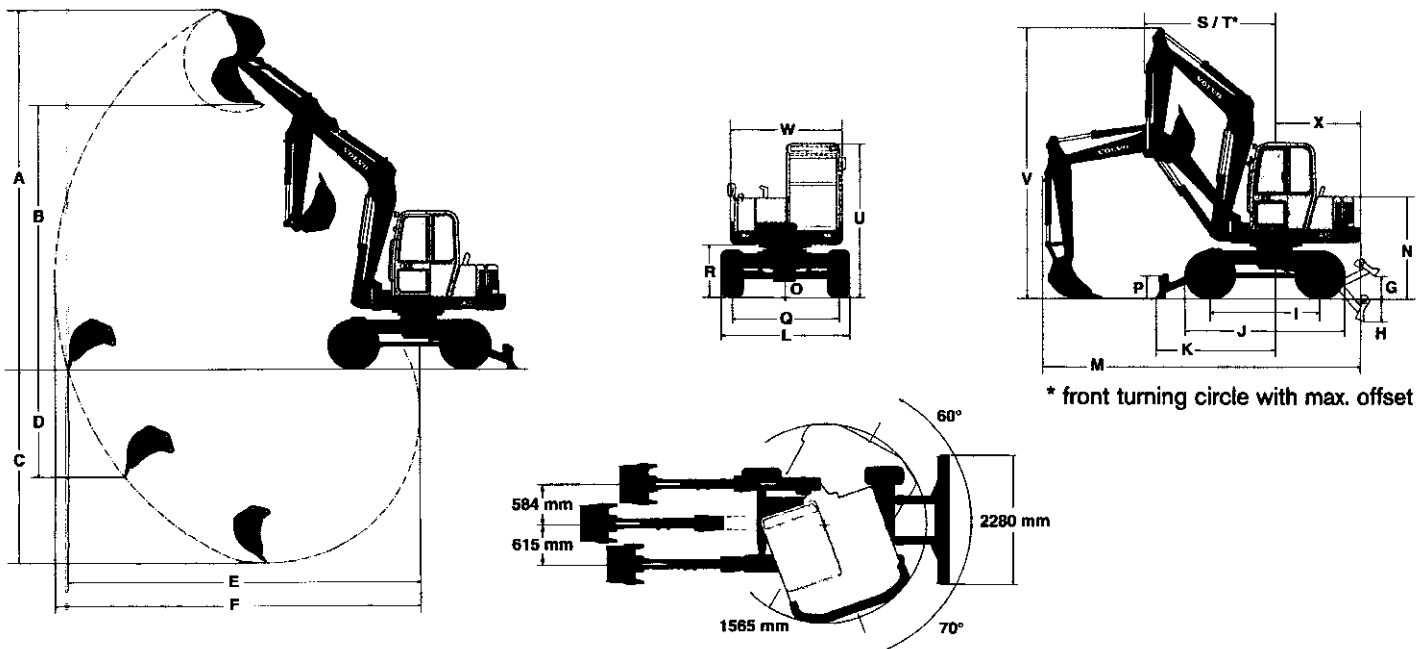
- **TOPS and FOPS** cab for a better operator safety.

- **Compact dimensions.** **Wrap-around** counterweight protects the rear compartment against all impacts.

- **Excellent serviceability** thanks to easy access to the engine and hydraulics compartments.

VOLVO

DIMENSIONS - SINGLE-PIECE BOOM



* front turning circle with max. offset

Buckets	Width	Weight	Capacity
Backhoe buckets	350 mm	85 kg	70 l
	450 mm	97 kg	98 l
	600 mm	118 kg	142 l
	750 mm	138 kg	187 l
Ditch bucket	900 mm	163 kg	231 l
	1500 mm	185 kg	265 l

Dipper	A	B	C	D	E	F
1500 mm	5437	3987	3133	2557	5474	5712
1900 mm	5643	4193	3533	2949	5872	6092

G	H	I	J	K	L	M	N	O
652	232	2050	2965	1745	2164	5132	1871	291

P	Q	R	S	T	U	V	W	X
373	1750	1042	2481	2071	2875	4254	1790	1482

(mm)

LOAD CAPACITIES - SINGLE-PIECE BOOM

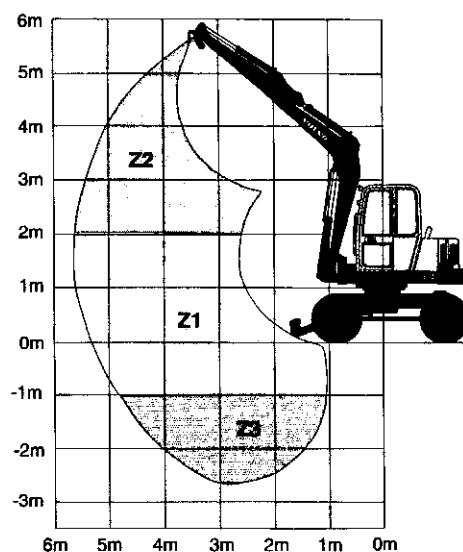
These capacities are given for a machine without a bucket or quick-release coupling. The handling capacity is 75% of the tipping load or 87% of the hydraulic limit. Caution: the load lifted must not exceed 1000 kg on a machine not fitted with a safety valve on the boom ram, in accordance with EN standard 474-5.

Horizontal Range		2.00 m	3.00 m	4.00 m	Maxi 5.3 m
		Z2	1235*	970*	
		Z1	2620*	1565*	1170*
		Z3	3135	2220*	
		Z2	1235*	970*	
		Z1	2620*	1440	740
		Z3	2650	1460	

Horizontal Range		2.00 m	3.00 m	4.00 m	Maxi 5.7 m
		Z2	1260*	970*	
		Z1	1965*	1260*	890*
		Z3	2955*	2145*	1565*
		Z2	1235	970*	
		Z1	1965*	1425	660
		Z3	2795	1430	950

* hydraulic limit

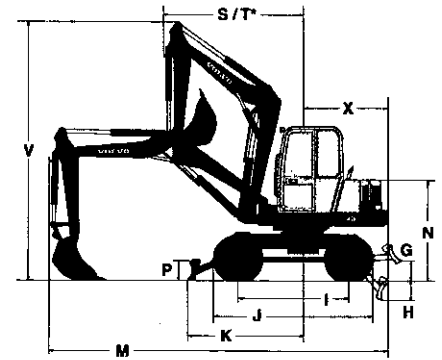
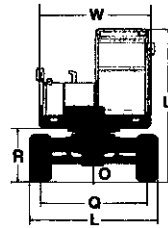
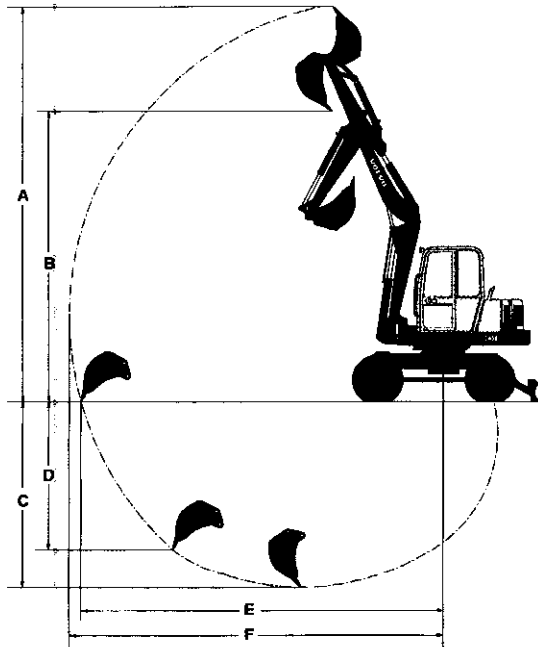
(kg)



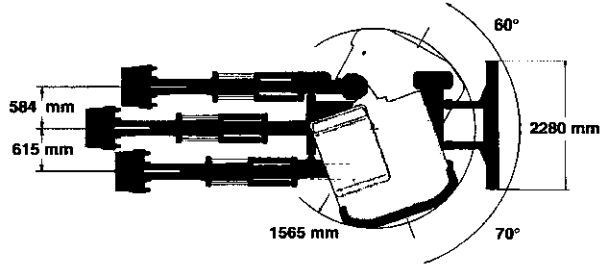
Lifting capacity in rear longitudinal position and resting on the blade or the stabilizers.

Lifting capacity in total rotation over 360° with the blade or the stabilizers raised.

DIMENSIONS - ARTICULATED BOOM



* front turning circle with max. offset



Buckets	Width	Weight	Capacity
Backhoe buckets 	350 mm	85 kg	70 l
	450 mm	97 kg	98 l
	600 mm	118 kg	142 l
	750 mm	138 kg	187 l
Ditch bucket 	900 mm	163 kg	231 l
	1500 mm	185 kg	265 l

Dipper	A	B	C	D	E	F
1500 mm	6563	5713	3130	2967	5929	6147
1900 mm	6898	6038	3530	3070	6336	6538

G	H	I	J	K	L	M	N	O
652	232	2050	2965	1745	2164	5753	1871	291

P	Q	R	S	T	U	V	W	X
373	1750	1042	2380	1972	2875	4475	1790	1482

(mm)

LOAD CAPACITIES - ARTICULATED BOOM

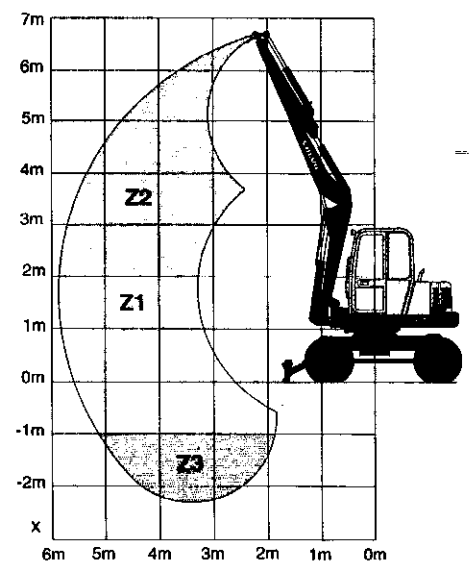
These capacities are given for a machine without a bucket or quick-release coupling. The handling capacity is 75% of the tipping load or 87% of the hydraulic limit. Caution: the load lifted must not exceed 1000 kg on a machine not fitted with a safety valve on the boom ram, in accordance with EN standard 474-5.

Horizontal Range		2.00 m	3.00 m	4.00 m	Maxi 5.3 m	
		Z2	2100*	1130*	915*	905*
		Z1	1955*	1130*	1040*	935*
		Z3	2555*	1530*	1225	
		Z2	2100*	1130*	890	
		Z1	1955*	1130*	815	565
		Z3	2395	1230	820	

Horizontal Range		2.00 m	3.00 m	4.00 m	Maxi 5.7 m	
		Z2	1890*	1145*	760*	805*
		Z1	2645*	1175*	820*	820*
		Z3		1430*	1195*	
		Z2		1120	735	
		Z1	1620*	1150	795	505
		Z3	2350	1210	805	

* hydraulic limit

(kg)



Lifting capacity in rear longitudinal position and resting on the blade or the stabilizers.

Lifting capacity in total rotation over 360° with the blade or the stabilizers raised.



ENGINE

Water-cooled 4-cylinder diesel engine.

Displacement, total2216 cc
 Power, installed (ISO 9249)33.7 kW (45.8 hp) at 2500 r/min
 Maximum torque (ISO 9249)139 Nm at 2050 r/min
 Bore x stroke80 mm x 100 mm



ELECTRICAL SYSTEM

Rated voltage12 V
 Battery capacity12 V - 95 Ah
 Alternator rating12 V - 55 A
 Starter motor output12 V - 2 kW



HYDRAULIC SYSTEM

Closed centre Load Sensing hydraulic system providing total independence of each movement.

Controlpower-assisted hydraulic controls

Variable displacement Load Sensing pump for all the equipment and travel circuits:

Maximum flow102.5 l/min
 Maximum operating pressure25 MPa (250 bars)

Gear pump for the circuit of the blade and slewing:

Maximum flow40 l/min
 Maximum operating pressure25 MPa (250 bars)

Double-acting hydraulic circuit for accessories:

Maximum flow75 l/min
 Maximum operating pressure25 MPa (250 bars)

End-of-stroke cushions

On boom ramat the end of the rod extension
 On dipper ramat the end of the rod retraction



SLEWING SYSTEM

Turntable slewing is provided by a radial piston hydraulic motor which drives directly (without a reduction gear) a ball internal crown wheel with remote lubrication.

Slewing speed10 r/min
 Turntable brakingautomatic multi-disc brake
 Absorption of hydraulic shocks.....Hydrosensor shockless valve



BUCKET PERFORMANCE

Breakout force3654 daN
 Tearout force2733 daN



UNDERCARRIAGE

Hydrostatic transmission with reverser and driving of the four drive wheels by transfer box and two rigid axles.

Two slow speeds3 and 6 kph
 Two fast speeds9 and 18 kph
 Max. tractive force2865 daN
 Maximum permitted slope58% (30°)
 Standard wheels12 x 18
 Wide wheels as an option15.5 x 55 R 18
 Twin wheels as an option7.5 x 18

Power-assisted hydrostatic steering with Autoreverse device available as an option.

Outside turning radius (with standard wheels)5115 mm

Braking system.

Service brakemultiple disc on all 4 wheels
 Parking and emergency brakeon the front axle

Stabilisation system.

Stabilising bladestandard
 Two stabilisers in place of the bladeoption
 Removable blade on the stabilisersoption

The stabiliser or blade rams are equipped as standard with safety valves.



SERVICE FILL CAPACITIES

Fuel tank80
 Hydraulic system, total70 l
 Hydraulic tank106 l
 Engine oil8 l
 Cooling system8 l



WEIGHT

Operational weight with standard bucket and blade:

With single-piece boom5190 kg
 With articulated boom5295 kg



NOISE LEVELS

Results of dynamic measurements:

Noise level exterior (L_{WA})99 dB(A)
 Noise level in the cab (L_{PA})80 dB(A)

The noise levels conform to directive n° 86/662 EEC and its amendments.

STANDARD EQUIPMENT

Engine

Dry-type air filter.
Electric pre-heating device.
Transparent diesel oil filter, pre-filter and sediment chamber.
Oil sump sheet metal guard.
Continuous adjustment of engine speed.

Electrical system

12 V - 95 Ah battery.
Horn.
12 V power socket for inspection lamp.

Undercarriage

12 x 18 tyres.
Stabilisation and backfilling blade with two rams equipped with safety valves.
Hydrostatic transmission with 4 drive wheels.
Remote lubrication of the slewing crown wheel.

Hydraulic system

ISO power-assisted hydraulic control.
Additional double-acting hydraulic control valve for an attachment circuit with folding control pedal and circuit for direct return of oil to the hydraulic tank.
Attachment circuit piping (double-acting + return) as far as the bottom of the boom.

Power-assisted control of the hydraulic offset of the boom by the left control lever.

Cab

Level 1 FOPS (Falling Objects Protective Structure).
TOPS (Tip-Over Protective Structure).
Multi-adjustable sprung consoles-seat assembly.
Fabric-covered superior comfort seat.
Non-slip floor with two foot rests.
Grab handles for access to the driver's cab.
Seat belt.
Cab mounted on rubber mountings.
Three working lights.
Two-speed heating and ventilation.
Cab heating adjustment.
Windscreen with opening system power-assisted by two gas rams.
Sliding window (right).
Door stops.
Provision for a radio (location for a radio and two speakers, aerial and electric wiring already fitted).
Interior lighting.
Anti-corrosion protection of the cab by electrophoresis.
Windscreen wiper and washer (front).

Instrumentation and monitoring

PUMA on-board message transfer control circuit providing continuous monitoring of the machine.
Monitoring and warning light for the following functions: pre-heating, engine oil pressure, water temperature, hydraulic oil temperature, battery charging, hydraulic filter restriction, air filter restriction.
Fuel gauge with minimum level warning light.
Total elapsed hour meter.
Partial elapsed hour meter with controlled reset.
Rev. counter.
Display of machine's serial number (anti-theft marking).

Handling and earthwork equipment

2700 mm long monobloc boom or articulated boom.
1500 mm dipper.
130° hydraulic boom offset.
Cushions on the boom and dipper rams.
Remote lubrication of the bottom of the offset ram.

Safety

Device for locking the earthwork equipment's controls when the left console is raised to gain access to the driver's cab.
Engine starting safety device: the left console must be raised to operate the starter.
Pressure accumulator on the power assistance circuit in order to be able to put the equipment on the ground if the engine is switched off.
Key-lockable toolbox.

Official approval

Machine conforming to directive n° 98/37 EEC and its amendments.
Soundproofing conforming to directive n° 86/662 EEC and its amendments.
FOPS 1 conforming to ISO standard 3449.
TOPS conforming to ISO standard 12117.
Electromagnetic compatibility (EMC) conforming to directive n° 89/336 EEC and its amendments.

OPTIONAL EQUIPMENT

Working equipment

Long dipper (1900 mm).
Handling device safety valve piloted by the power assistance circuit on the boom ram and overload indicator conforming to EN standard 474-5.
Safety valve on the dipper ram.
Hydraulically-controlled quick-release attachment coupling.

Hydraulic circuits for attachments

Circuit for hydraulic breaker with direct return to the tank.
Hydraulic circuit for double-acting attachments.
Hydraulic circuit for operating a clam-shell bucket (opening/closing and rotation of the bucket).

Undercarriage

15.5/55 R 18 low-profile tyres.
Twin wheels fitted with 7.5 x 18 tyres.
Autoreverse device.

Right/left independently-controlled stabilisers in place of the blade.
Removable blade mounted on the stabilisers.

Lighting

Additional working light on the boom.
Additional rear working light.
Revolving light.

Environmental protection

Bio-degradable hydraulic oil.
Catalytic exhaust.

Comfort and safety

Radio.
Anti-theft system (2 programmable codes).
Electric circuit-breaker.

Service and maintenance

Tool kit.

Miscellaneous

Special customised paint (RAL specifications).

Under our policy of continuous product 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.

VOLVO

Volvo Construction
Equipment Group

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