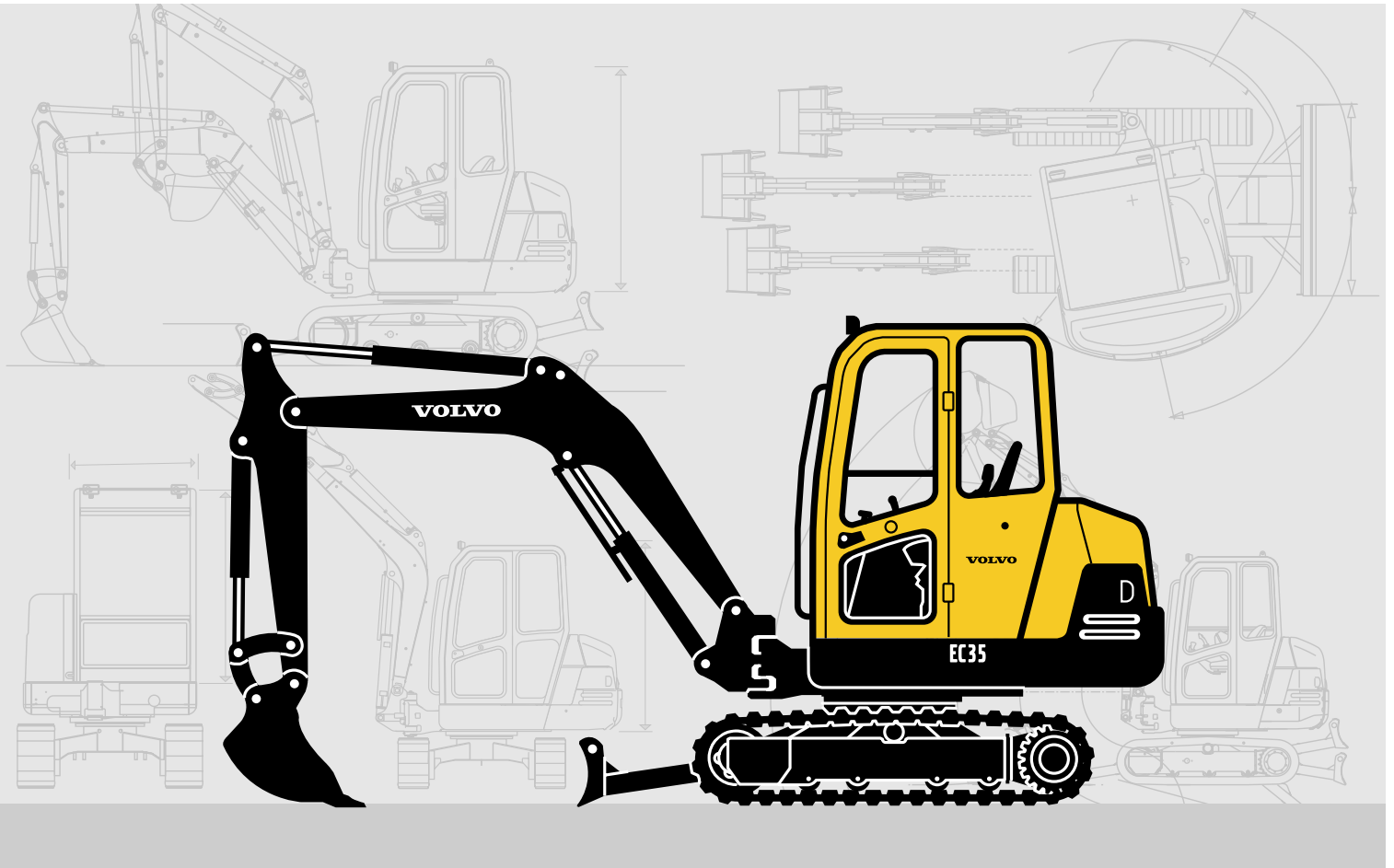


VOLVO COMPACT EXCAVATOR

EC35



- **Gross Power:**
ISO 9249 : 27.2 kW / 37 hp
- **Net Power:**
ISO 9249 : 21.6 kW / 29 hp
- **Operating Weight:**
3,422 - 3,540 kg / 7,546 - 7,806 lbs
- **Bucket Capacities:**
43 - 164 l. / 0.056 - 0.215 yd³
- **Maximum Digging Depth:**
3,420 - 3,710 mm / 11'3" - 12'2"
- **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.
- **ROPS, TOPS and FOPS** cab or canopy for a better operator safety.
- **Compact dimensions. Wrap-around** counterweight protects the rear compartment against all impacts.
- **Two travel speeds** for higher mobility on job sites.
- **Control pattern selector (ISO/SAE)** for a quick change of operating modes.
- **Excellent serviceability** thanks to easy access to the engine and hydraulic compartments.
- **X-shaped lengthened undercarriage** for better rigidity and stability.

VOLVO



ENGINE

Water-cooled Mitsubishi 4-cylinder diesel engine in conformity with US EPA regulation.

ModelS4L2
Gross power, rated (ISO 9249) ..27.2 kW (37 hp) @ 2,800 r/min (46.6 rps)
Power, installed (ISO 9249) ..21.6 kW (29.3 hp) @ 2,200 r/min (36.6 rps)
Displacement, total1,758 cc (107.3 in³)
Maximum torque (ISO 9249) ..102 Nm @1,600 r/min (75.2 lbf/ft @ 26.6 rps)
Bore x stroke78 mm x 92 mm (3 in x3.6 in)



ELECTRICAL SYSTEM

Rated voltage12 V
Battery capacity.....12 V - 70 Ah
Alternator rating12 V - 50 A
Starter motor output12 V - 2.7 hp



HYDRAULIC SYSTEM

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

Control.....power-assisted hydraulic controls

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

Maximum flow90.2 l/min (23.8 US gpm)
Maximum operating pressure.....23 MPa (3,335 PSI)

Gear pump for the power assistance circuit:

Maximum flow17.6 l/min (4.65 US gpm)
Maximum operating pressure3.2 MPa (464 PSI)

Double-acting hydraulic circuit for accessories:

Maximum flow60 l/min (15.8 US gpm)
Maximum operating pressure.....23 MPa (3,335 PSI)

End-of-stroke dampening:

On boom cylinder.....piston rod extended
On dipper cylinderpiston rod retracted
On offset cylinder.....on both sides

Offset cylinder lock:

The equipment's offset cylinder is equipped with a balancing valve that holds the boom offset angle in the position chosen by the operator in all working conditions.



SWINGING SYSTEM

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

Swinging speed10 rpm
Turntable braking.....automatic multi-disc brake
Absorption of hydraulic shocksHydrosensor shockless valve



BUCKET PERFORMANCE

Breakout force2,920 daN (6,564 lbf)
Tearout force2,190 daN (4,923 lbf)



UNDERCARRIAGE

The undercarriage is made up of an "X" box fabricated center part, for more rigidity, and sloping side members, for a better clearance of materials. The rollers and the tensioning wheels are lubricated for life.

Bottom/top rollers per side4 / 1
Track width.....300 mm (1'0")
Track tensionby grease piston
Blade (width x height)1,650 x 370 mm (5'5" x 1'3")



TRAVEL SYSTEM

Each track is driven by an axial piston hydraulic motor equipped with two speeds and an epicyclic reduction gear. Braking is performed automatically by an oil bath multiple disc brake on each motor.

Max. speed (low speed/ high speed).....2.8 - 4.3 km/h (1.7 - 2.7 mph)
Max. tractive force3,630 daN (8,160 lbf)

The travel circuit is automatically locked when the operator raises the left console.



SERVICE FILL CAPACITIES

Fuel tank66 l (17.4 US gal)
Hydraulic system, total.....62 l (16.4 US gal)
Hydraulic tank.....37 l (9.8 US gal)
Engine oil7.7 l (2.0 US gal)
Cooling system8 l (2.1 US gal)



WEIGHT

Operating mass	Rubber Tracks	Steel Tracks
Canopy version	3,422 kg (7,546 lbs)	3,464 kg (7,638 lbs)
Cab version	3,540 kg (7,805 lbs)	3,582 kg (7,898 lbs)

Ground pressure	Rubber Tracks	Steel Tracks
Canopy version	0.31 kg/cm ² (4.4 lbs/in ²)	0.32 kg/cm ² (4.5 lbs/in ²)
Cab version	0.33 kg/cm ² (4.7 lbs/in ²)	0.34 kg/cm ² (4.8 lbs/in ²)



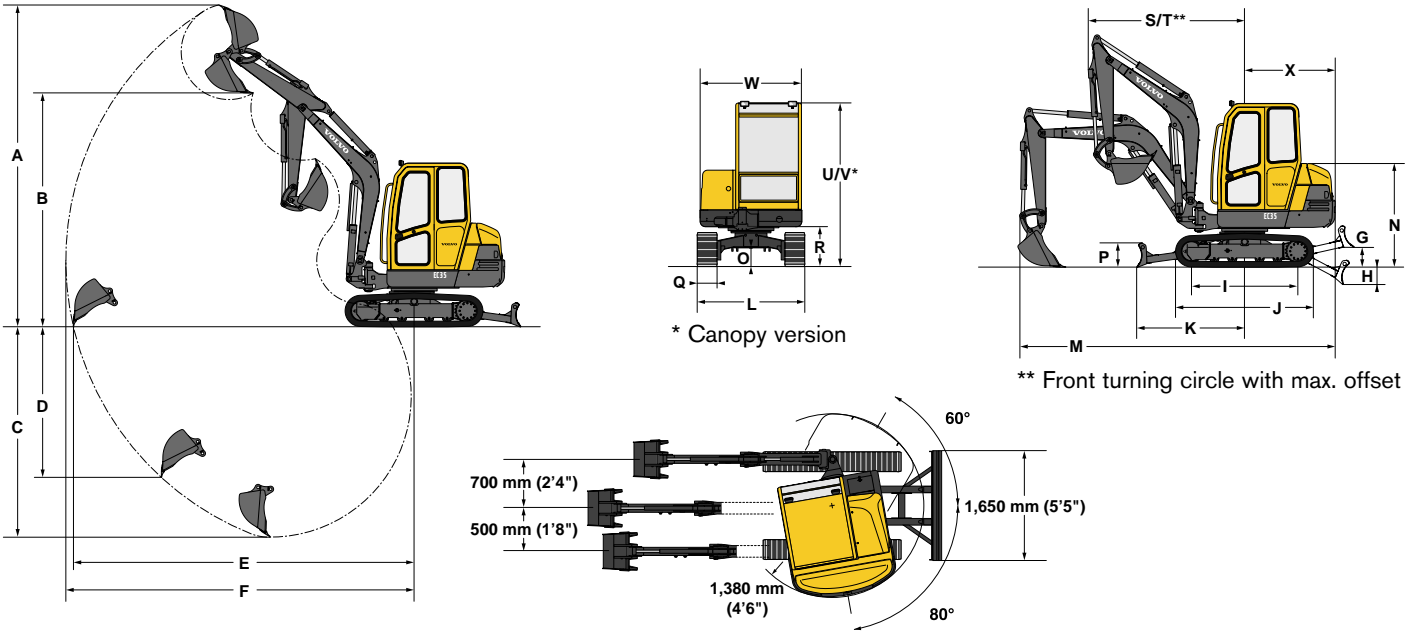
NOISE LEVELS

Results of dynamic measurements:

Noise level exterior (LwA).....96 dB(A)
Noise level in the cab (LpA)77 dB(A)
Noise level under the canopy (LpA)80 dB(A)

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

DIMENSIONS



Buckets	Width	Weight	Capacity
Backhoe buckets 	300 mm (12")	55 kg (121 lbs)	43 l (0.056 yd³)
	450 mm (18")	66 kg (145 lbs)	80 l (0.105 yd³)
	600 mm (24")	83 kg (183 lbs)	132 l (0.173 yd³)
	750 mm (30")	104 kg (229 lbs)	157 l (0.205 yd³)
Ditch bucket 	1,300 mm (51")	125 kg (275 lbs)	164 l (0.215 yd³)

Dipper	A	B	C*	C	D	E	F
1,400 mm (4'7")	4,840 mm (15'11")	3,530 mm (11'7")	3,420 mm (11'3")	3,170 mm (10'5")	2,200 mm (7'3")	5,130 mm (16'10")	5,240 mm (17'2")
1,700 mm (5'7")	5,020 mm (16'6")	3,720 mm (12'2")	3,710 mm (12'2")	3,470 mm (11'5")	2,500 mm (8'2")	5,420 mm (17'9")	5,530 mm (18'2")

* Dig depth with blade down.

G	H	I	J	K	L	M	N	O
380 mm (1'3")	510 mm (1'8")	1,600 mm (5'3")	2,070 mm (6'9")	1,620 mm (5'4")	1,620 mm (5'4")	4,750 mm (15'7")	1,560 mm (5'1")	290 mm (0'11")

P	Q	R	S	T	U	V	W	X
370 mm (1'3")	300 mm (1'0")	600 mm (2'0")	2,040 mm (6'8")	1,570 mm (5'2")	2,460 mm (8'1")	2,350 mm (7'9")	1,570 mm (5'2")	1,360 mm (4'6")

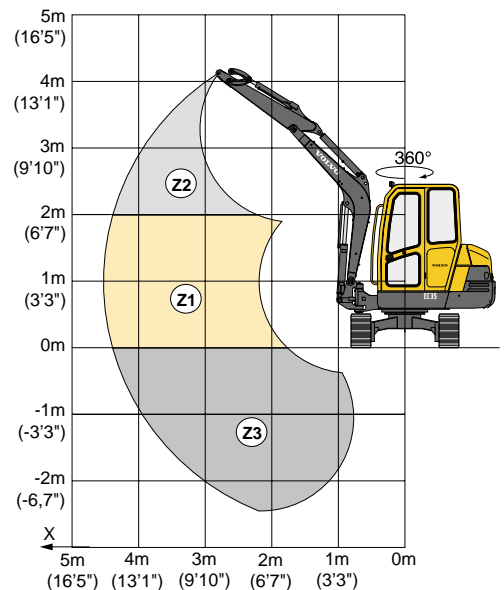
TOTAL ROTATION LOAD CAPACITIES

These capacities are given for a machine without a bucket or quick-release coupling and fitted with 1,400 mm (4'7") dipper arm, rubber tracks and cab. The handling capacity is 75% of the tipping load or 87% of the hydraulic limit.

Outreach		1.50 m (4'11")	2.00 m (6'7")	2.50 m (8'2")	3.00 m (9'10")	3.50 m (11'6")	4.50 m (13'1")
	Z2			1,025 kg* (2,260 lbs)*	770 kg* (1,698 lbs)*	740 kg* (1,632 lbs)*	
	Z1	1,555 kg* (3,429 lbs)*	1,570 kg* (3,462 lbs)*	1,025 kg* (2,260 lbs)*	925 kg* (2,040 lbs)*	870 kg* (1,918 lbs)*	910 kg* (2,007 lbs)*
	Z3	2,275 kg* (5,016 lbs)*	1,595 kg* (3,517 lbs)*	1,190 kg* (2,624 lbs)*	1,190 kg* (2,624 lbs)*	1,170 kg* (2,580 lbs)*	
	Z2			955 kg (2,106 lbs)	720 kg (1,588 lbs)	570 kg (1,257 lbs)	
	Z1	1,555 kg* (3,429 lbs)*	1,190 kg (2,624 lbs)	845 kg (1,863 lbs)	655 kg (1,444 lbs)	530 kg (1,169 lbs)	380 kg (838 lbs)
	Z3	2,040 kg (4,498 lbs)	1,215 kg (2,679 lbs)	855 kg (1,885 lbs)	660 kg (1,455 lbs)	535 kg (1,180 lbs)	

1 - Lifting capacity in front longitudinal position and resting on the blade.
2 - Lifting capacity in total rotation over 360° with the blade raised.

* hydraulic limit



STANDARD EQUIPMENT

Engine

Dry-type air filter.
Electric pre-heating device.
Fuel water trap with sediment bowl.
Purge plug under the diesel oil tank.
Oil Pan guard.
Continuous adjustment of engine speed.

Electrical system

12 V - 70 Ah battery.
Horn.
12 V power socket for inspection lamp.
Battery isolator switch.

Undercarriage

300 mm (1'0") wide rubber tracks.
Dozer blade.
Towing and anchoring points.
Remote lubrication of the swinging crown ring.

Hydraulic system

Control pattern selector valve (ISO/SAE).
Circuit for hydraulic breaker with folding control pedal and direct return of oil to the hydraulic tank.
Piping as far as dipper arm.
Power-assisted control of the hydraulic offset of the boom by the left control lever.
Control of forward movement by two levers coupled to pedals.

Cab and canopy

Level 1 FOPS (Falling Objects Protective Structure).
TOPS (Tip-Over Protective Structure).
ROPS (Roll-Over Protective Structure).
Multi-adjustable consoles with suspended-seat assembly.
Superior comfort seat.
Non-slip floor with two foot rests.
Grab handles for access to the driver's cab.
Seat belt.
One working light.
For cab versions only:
Cab mounted on rubber mountings.
Two working lights.
Two-speed heating and ventilation.
Windscreen with opening system power-assisted by two gas rams.
Quickly removable front bottom window, and window fixing support behind the seat.
Sliding window (right).
Door stops.
Provision for a radio (location for a radio and two speakers, antenna and electric wiring already fitted).
Interior lighting.
Anti-corrosion protection of the cab.
Windscreen wiper and washer (front).
Emergency exit via the front window.

Instrumentation and monitoring

PUMA 2 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).
Automatic switching off of engine in the event of overheating or drop in oil pressure.

Handling and earthwork equipment

2,450 mm (8'0") long monoblock boom.
1,400 mm (4'7") dipper.
140° hydraulic boom offset.
Non-return valve on the offset cylinder.
Damper on the boom, dipper and offset cylinders.
Handling equipment: hook on the bucket with load chart displayed in the driver's cab.
Remote lubrication of the bottom of the offset cylinder.

Safety

System for locking the working equipment controls and the travel levers when the left console is raised to gain access to the operator's cab.
Engine safety start: 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

FOPS 1 conforming to ISO standard 3449 and SAE J1043.
TOPS conforming to ISO standard 12117.
ROPS conforming to SAE J1040 and ISO 3471.
Soundproofing conforming to directive n°861662EEC and its amendments.
Engine in conformity with US EPA regulation.

Service and maintenance

Tool kit.

OPTIONAL EQUIPMENT

Working equipment

Long dipper (1,700 mm - 5'7").
Mechanically-controlled quick-release attachment bracket.
Hydraulically-controlled quick-release attachment bracket.

Hydraulic circuits for attachments

Hydraulic circuit for double-acting attachments (Auger...).
Hydraulic circuit for operating a clam-shell bucket (opening/closing and rotation of the bucket).

Undercarriage

Steel tracks (300 mm - 1'0" wide).

Lighting

Additional working light on the boom.
Additional rear working light.
Turning beacon.

Comfort and safety

Radio.
Anti-theft system (2 programmable codes).

Miscellaneous

Special customized 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

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