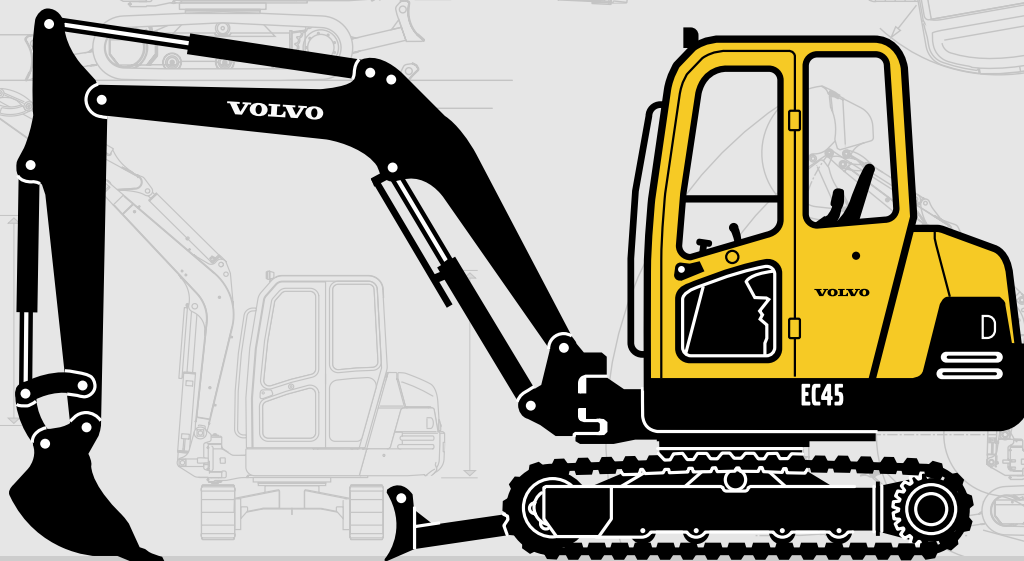


VOLVO COMPACT EXCAVATOR

EC45



- **Gross Power:**
ISO 9249 : 31 kW / 42 hp
- **Net Power:**
ISO 9249 : 27.2 kW / 37 hp
- **Operating Weight:**
4,250 - 4,387 kg / 9,371 - 9,673 lbs
- **Bucket Capacities:**
43 - 164 l. / 0.056 - 0.214 yd³
- **Maximum Digging Depth:**
3,510 - 3,800 mm / 11'6" - 12'6"
- **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.

Model.....K4N
Gross power, rated (ISO 9249).....31 kW (42 hp) @ 2,600 r/min (43.3 rps)
Power, installed (ISO 9249).....27.2 kW (37 hp) @ 2,000 r/min (33.3 rps)
Displacement, total2,290 cc (139.7 in³)
Maximum torque (ISO 9249) ..137 Nm @1,400 r/min (101 lbf/ft @ 23.3 rps)
Bore x stroke90 mm x 90 mm (3.54 in x3.54 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 flow99 l/min (26.2 US gpm)
Maximum operating pressure.....26 MPa (3,770 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 (15.9 US gpm)
Maximum operating pressure.....26 MPa (3,770 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 force3,240 daN (7283 lbf)
Tearout force2,480 daN (5575 lbf)



UNDERCARRIAGE

The undercarriage is made up of an "X" box fabricated center part, for more rigidity, 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.....400 mm (1'4")
Track tensionby grease
Blade (width x height)1,850 x 370 mm (6'1" x 1'3")

The blade cylinder is equipped with a safety pressure valve for safe lifting.



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)2.9 - 4.3 km/h (1.8 - 2.7 mph)
Max. tractive force4,080 daN (9,172 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, total62 l (16.4 US gal)
Hydraulic tank37 l (9.8 US gal)
Engine oil7.7 l (2 US gal)
Cooling system.....8 l (2.1 US gal)



WEIGHT

Operating mass	Rubber Tracks	Steel Tracks
Canopy version	4,132 kg (9,111 lbs)	4,269 kg (9,413 lbs)
Cab version	4,250 kg (9,371 lbs)	4,387 kg (9,673 lbs)

Ground pressure	Rubber Tracks	Steel Tracks
Canopy version	0.24 kg/cm ² (3.4 lbs/in ²)	0.25 kg/cm ² (3.5 lbs/in ²)
Cab version	0.25 kg/cm ² (3.6 lbs/in ²)	0.26 kg/cm ² (3.7 lbs/in ²)



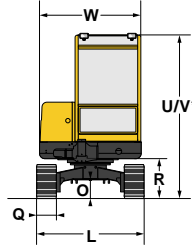
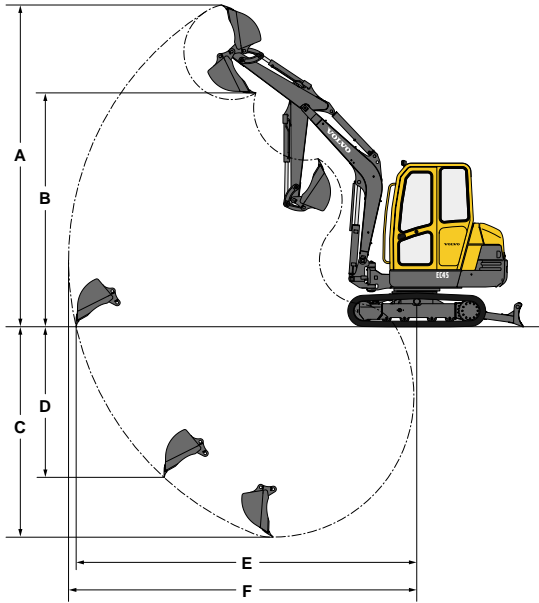
NOISE LEVELS

Results of dynamic measurements:

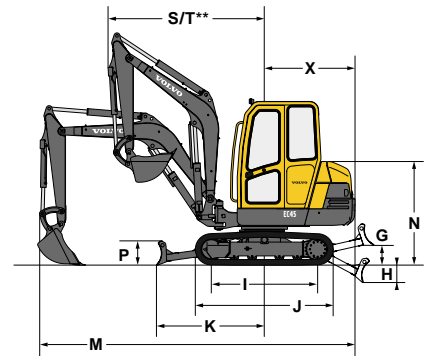
Noise level exterior (LwA).....95 dB(A)
Noise level in the cab (LpA)78 dB(A)
Noise level under the canopy (LpA)80 dB(A)

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

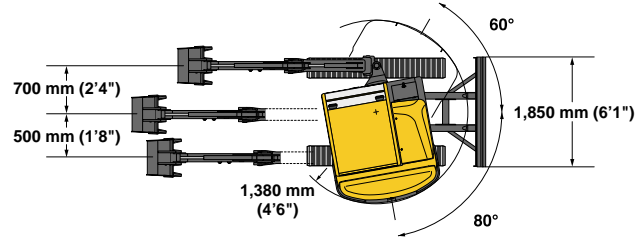
DIMENSIONS



* Canopy version



** Front turning circle with max. offset



Buckets	Width	Weight	Capacity
Backhoe buckets 	300 mm (12")	55 kg (121 lbs)	43 l (0.056 yd ³)
	450 mm (18")	66 kg (145 lbs)	80 l (0.105 yd ³)
	600 mm (24")	83 kg (183 lbs)	132 l (0.173 yd ³)
	750 mm (30")	104 kg (229 lbs)	157 l (0.205 yd ³)
Ditch bucket 	1,300 mm (51")	125 kg (275 lbs)	164 l (0.215 yd ³)

Dipper	A	B	C*	C	D	E	F
1,400 mm (4'7")	4,930 mm (16'2")	3,640 mm (11'11")	3,510 mm (11'6")	3,320 mm (10'11")	2,310 mm (7'7")	5,280 mm (17'4")	5,400 mm (17'9")
1,700 mm (5'7")	5,110 mm (16'9")	3,810 mm (12'6")	3,800 mm (12'6")	3,620 mm (11'11")	2,550 mm (8'4")	5,570 mm (18'3")	5,690 mm (18'8")

* Dig depth with blade down.

G	H	I	J	K	L	M	N	O
410 mm (1'4")	480 mm (1'7")	1,770 mm (5'10")	2,280 mm (7'6")	1,620 mm (5'4")	1,800 mm (5'11")	4,930 mm (16'2")	1,610 mm (5'3")	320 mm (1'1")

P	Q	R	S	T	U	V	W	X
370 mm (1'3")	400 mm (1'4")	650 mm (2'2")	2,220 mm (7'3")	1,740 mm (5'9")	2,510 mm (8'3")	2,400 mm (7'10")	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.

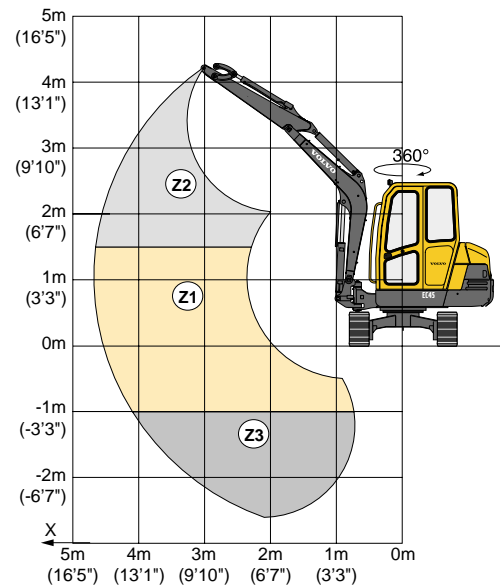
The handling capacity is 75% of the tipping load or 87% of the hydraulic limit.

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 (14'9")
	Z2			1,195 kg* (2,635 lbs)*	825 kg* (1,819 lbs)*	745 kg* (1,643 lbs)*	905 kg* (1,996 lbs)*
	Z1	1,625 kg* (3,583 lbs)*	1,495 kg* (3,296 lbs)*	1,630 kg* (3,594 lbs)*	1,260 kg* (2,778 lbs)*	1,085 kg* (2,392 lbs)*	945 kg* (2,084 lbs)*
	Z3	2,415 kg* (5,325 lbs)*	1,885 kg* (4,156 lbs)*	1,955 kg* (4,311 lbs)*	1510 kg* (3,330 lbs)*	1400 kg* (3,087 lbs)*	
	Z2			1,195 kg* (2,635 lbs)*	825 kg* (1,819 lbs)*	745 kg* (1,643 lbs)*	550 kg (1,213 lbs)
	Z1	1,625 kg* (3,583 lbs)*	1,495 kg* (3,296 lbs)*	1,205 kg (2,657 lbs)	930 kg (2,051 lbs)	755 kg (1,665 lbs)	540 kg (1,191 lbs)
	Z3	2,415 kg* (5,325 lbs)*	1,735 kg (3,826 lbs)	1,220 kg (2,690 lbs)	935 kg (2,062 lbs)	760 kg (1,676 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

400 mm (1'4") wide rubber tracks.
Dozer blade.
Towing and anchoring points.
Remote lubrication of the swinging crown ring.
Safety valve on the blade cylinder.

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

2,600 mm (8'6") 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

Mechanically-controlled quick-release attachment bracket.
Hydraulically-controlled quick-release attachment bracket.

Hydraulic circuits for attachments

Long dipper (1 700 mm - 5'7").
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 (400 mm - 1'4" 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

**Volvo Construction Equipment
North America Inc.**

One Volvo Drive, Asheville, N.C. 28803-3447
Tel: 828-650-2070, Fax: 828-650-2508

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