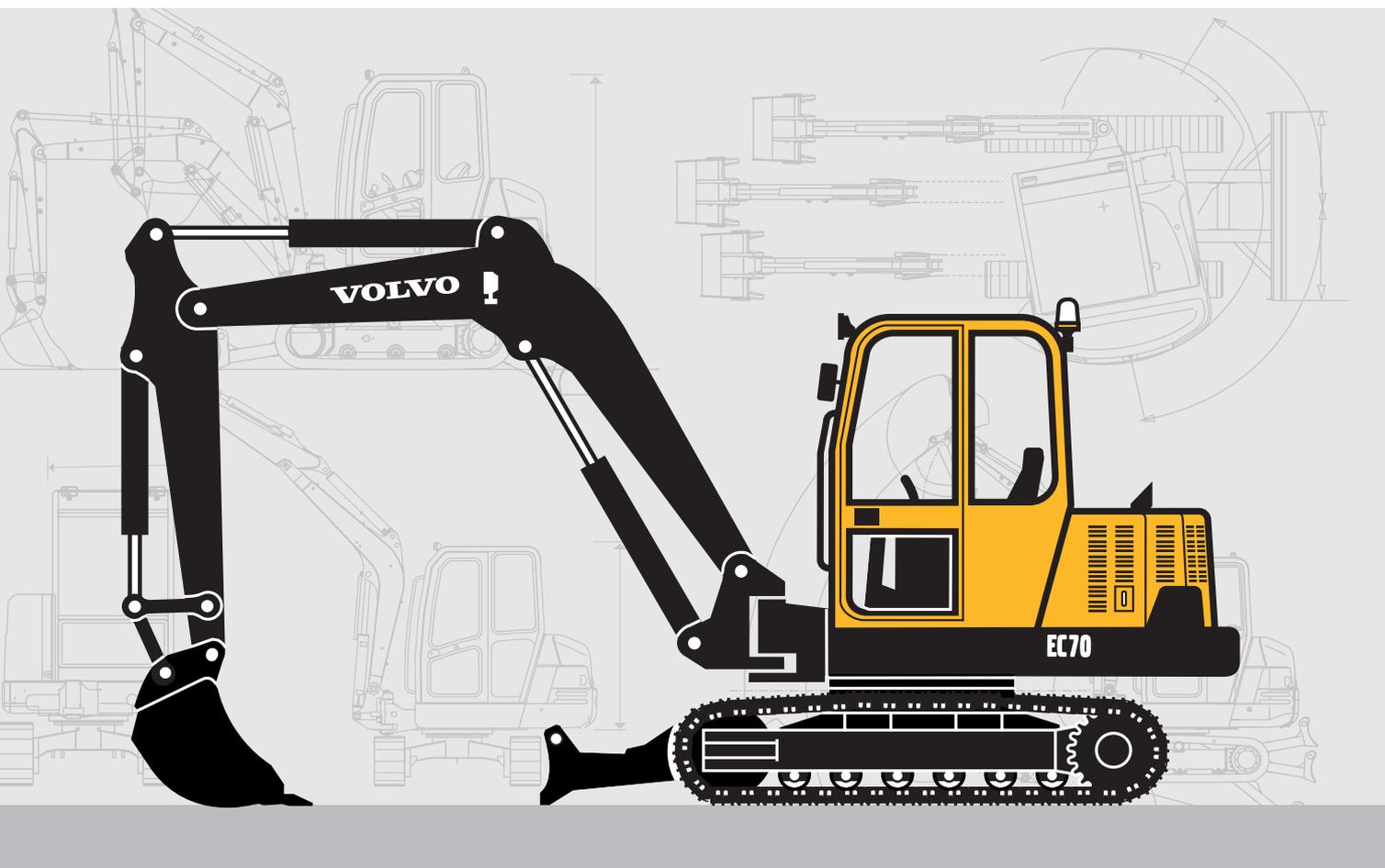


VOLVO COMPACT EXCAVATOR

EC70



- **Net Power :**
SAE J1349 : 41.2 kW / 56 hp

- **Operating Weight :**
7035 - 7450 kg

- **Bucket Capacities :**
103 - 306 l.

- **Maximum Digging Depth :**
4260 - 4660 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.

- **FOPS** cab 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.

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

VOLVO

More power, more profitability

COMPACT EXCAVATOR EC70

Offering high-powered performance even in the worst possible conditions, with its powerful yet extremely quiet engine, this machine is equipped with the load-sensing system to give the operator perfect control when carrying out work. Its performance and reliability, as well as its many other qualities, will never cease to amaze you.



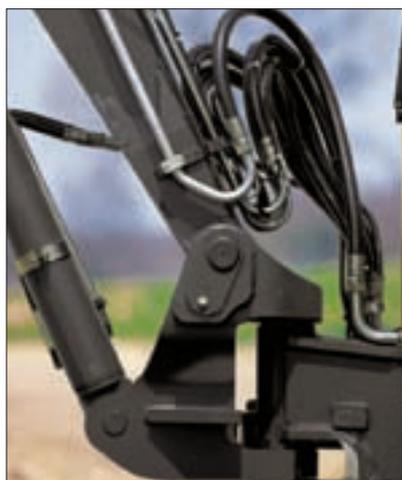
A unique feature : the quick coupling system available as an option enables bucket or accessory to be changed without the operator leaving the cab. Appreciated by all users, this device saves a lot of time and increases comfort considerably without altering the bucket's performances or sequence of operations.



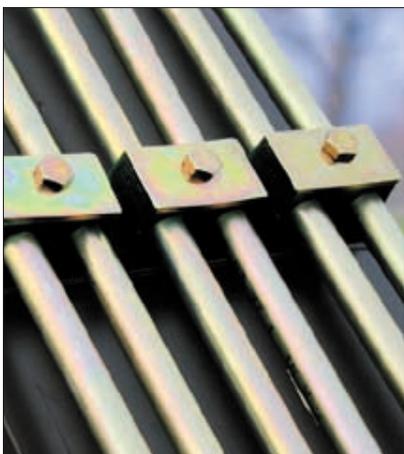
The EC70 is provided as standard with two travel speeds, including a fast speed to speed up machine travel on the site.



The wrap-around shape of the counterweight protects the back of the machine perfectly and makes it possible to work on the narrowest sites.



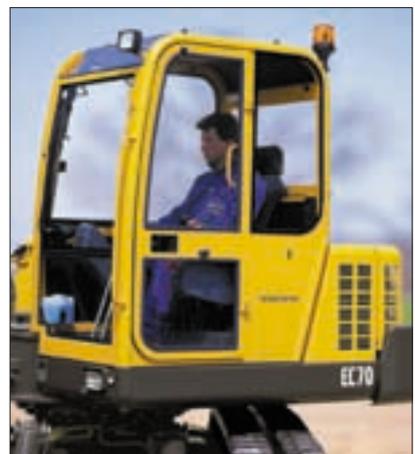
All the hydraulic hoses are sheathed and free of any friction or wear and are connected at the bottom of the boom for very quick replacement, if necessary. The boom is mounted on a double-swivel articulated pivot which enables a long pin to be mounted and provides greater rigidity in the boom-chassis link. The boom cylinder's rod is fully protected against any knocks by sturdy armoring.



Very effective corrosion protection : all the nuts and bolts, the pins and the hydraulic pipes are zinc-plated.



Thanks to its compact dimensions and the boom's hydraulic offset, the EC70 is at ease in all site configurations, even alongside a wall.

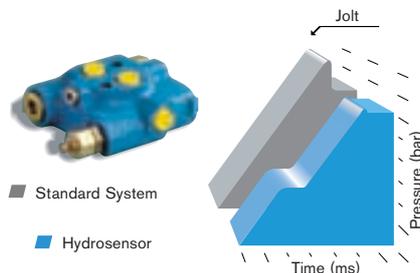


Precision and flexibility of the Load-Sensing

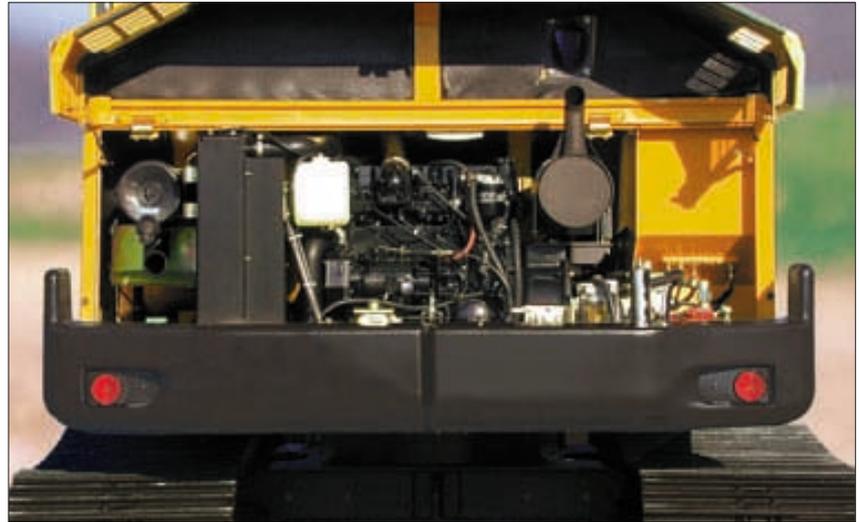
COMPACT EXCAVATOR EC70



A unique feature : the radial piston slow slewing motor. This motor has a very high starting torque for flexible manoeuvres, and drives the crown directly without a mechanical reducer. The result is fewer moving parts and therefore less risk of wear. The automatic hydraulic brake integrated in the slewing motor immobilises the turret in all positions and guarantees optimum working safety even on a slope.



The hydrosensor valve on the slewing circuit damps the pressure peaks and hydraulic shocks common on starting and stopping on conventional circuits. The result : a progressive pressure increase, greater flexibility and precision, less stressed and therefore more reliable mechanical parts.



The back cover opens completely, giving excellent access to the engine and hydraulic pumps. All maintenance and checking points are conveniently located close to hand.



A wide central cover gives excellent access to a service platform where all the machine's hydraulic components are grouped together. Access to the control valves, rotating joint and slewing motor is immediate, which greatly facilitates all maintenance operations.

- Continuous and immediate load sensing control of the hydraulic pump's flow and pressure to suit the work done by the excavator.
- All hydraulic functions are independent and can be operated simultaneously : more operating comfort and productivity.
- Control valves with closed centre : pump flow zero on standby, no unnecessary oil circulation. No loss of power or deterioration of oil by overheating.
- Hydraulic power continuously adapted to suit the load : optimum use of the engine's power.
- Straight-line travel maintained even when the equipment or the turret are moving : more safety.
- Excellent precision of the controls, even with a large load : safety of handling work.
- Speed of movements independent of the bucket's resistant force : simplification of operation.

A very high level of comfort and safety



The side consoles supporting the manipulators are rigidly linked to the seat's suspension : operating precision is independent of the machine's movements and the operator is sure of finding an operating position ideally suited to him.



An anti-theft keypad, available as an option, enables machine starting and the main hydraulic functions to be locked.



The PUMA system on the EC70 continuously monitors all the machine's vital functions and immediately informs the operator if there is a fault. The operator is therefore free to concentrate fully on operating the machine.



Operator comfort is a priority for Volvo. The operator's cab is spacious and easily accessible. The hydraulic controls are power-assisted and very progressive for more flexibility and precision. Volvo's ergonomic manipulators feel good and are complemented by side arm rests which give a natural and very comfortable operating position.

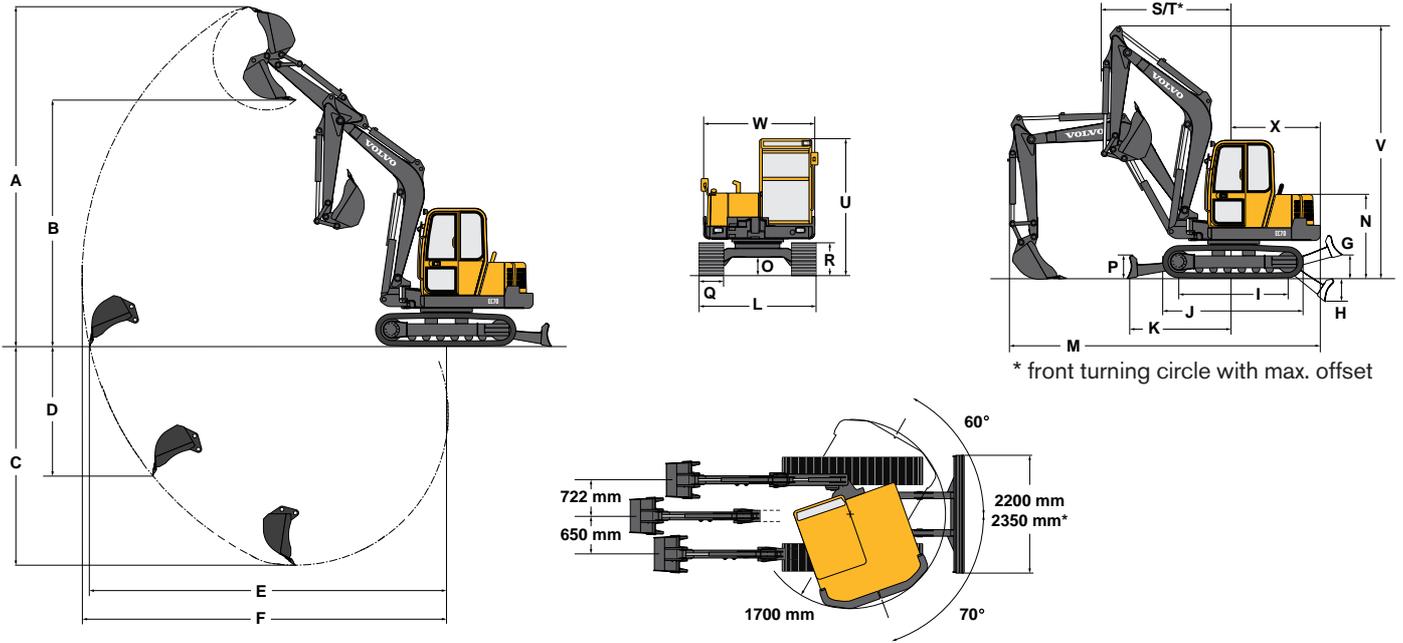
The EC70's cab and canopy have a very high level of safety, guaranteed by the FOPS 1 certification (Falling Object Protection Structure). The seatbelt is part of the standard equipment.

Articulated boom



The articulated boom increases the EC70's versatility. The boom's additional joint reduces the equipment's overall dimensions and makes it possible to position the bucket on a larger ground surface, even in the immediate proximity of the machine.

DIMENSIONS - SINGLE-PIECE BOOM



Buckets	 Width	 Weight	 Capacity
	380 mm	112 kg	103 l
	450 mm	126 kg	130 l
	600 mm	155 kg	188 l
	750 mm	175 kg	246 l
	900 mm	199 kg	306 l
	1500 mm	190 kg	265 l

Dipper	A	B	C*	C	D	E	F
	6273	4521	4258	4012	2370	6443	6632
	6541	4789	4659	4412	2713	6829	7014

* Dig depth with blade down.

G	H	I	J	K	L	M	N	O
472	386	2062	2600	1970	2150 2300*	5725	1582	360

P	Q	R	S	T	U	V	W	X
427	450*	731	2430	2026	2585	4645	2050	1585

* Wide steel tracks (600 mm) (optional)

in mm

LOAD CAPACITIES - SINGLE-PIECE BOOM

These capacities are given for a machine without a bucket or quick-release coupling and fitted with rubber tracks. The handling capacity is 75% of the tipping load or 87% of the hydraulic limit.

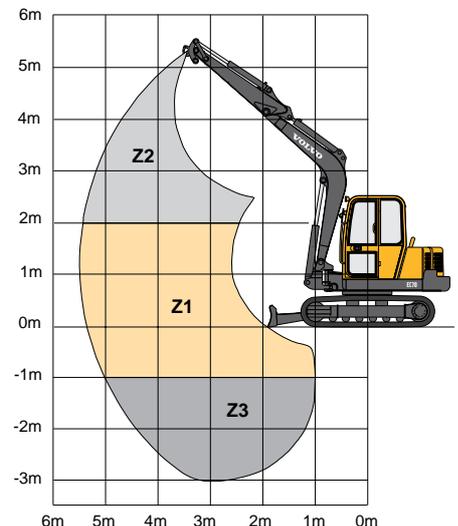
Caution : In accordance with standard EN 474-5, the machine must be equipped with a safety valve on the boom ram and an overload indicator (available as options) to carry out handling operations.

Horizontal Range		2.50 m	3.00 m	4.00 m	5.00 m	max 5.5 m	
		Z2	2845	1750*	1185*	1000	860
		Z1	2565	1940	1290	955	845
		Z3	2600	1950	1295	965	

Horizontal Range		2.50 m	3.00 m	4.00 m	5.00 m	max 6.0 m	
		Z2	2150*	1805*	1110*	1010	
		Z1	2150*	1805*	1280	950	745
		Z3	2575	1935	1280	950	

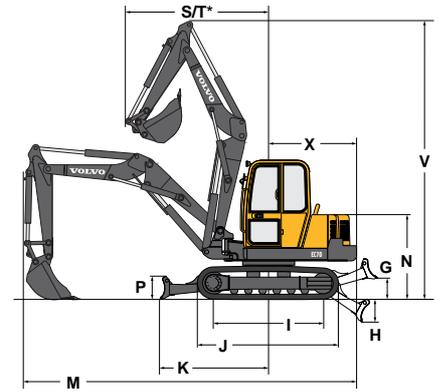
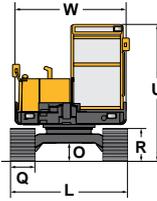
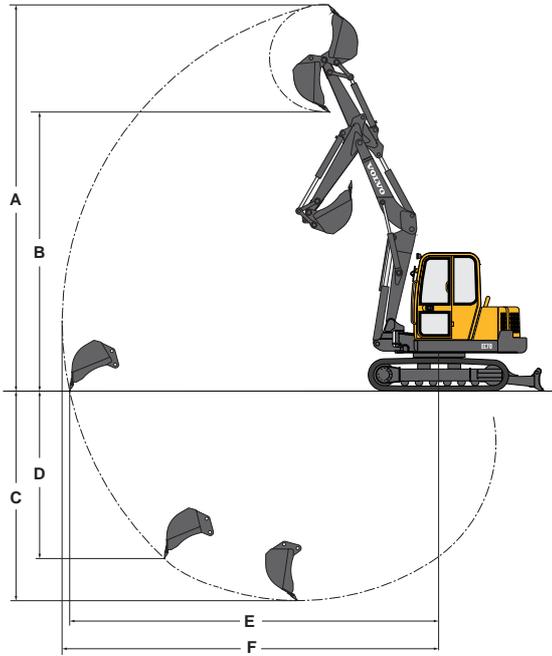
* hydraulic limit

in kg

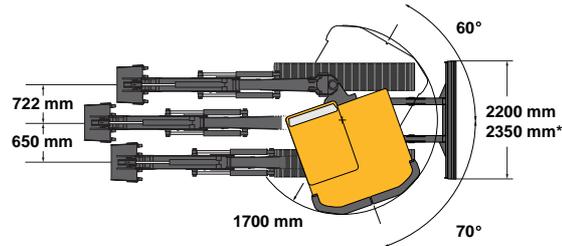


Lifting capacity in total rotation over 360° with the blade raised.

DIMENSIONS - ARTICULATED BOOM



* front turning circle with max. offset



Buckets	 Width	 Weight	 Capacity
	380 mm	112 kg	103 l
	450 mm	126 kg	130 l
	600 mm	155 kg	188 l
	750 mm	175 kg	246 l
Ditch bucket 	900 mm	199 kg	306 l
	1500 mm	190 kg	265 l

Dipper	A	B	C*	C	D	E	F
 1800 mm	7236	6267	4180	3951	3177	6820	7016
 2200 mm	7606	6635	4580	4360	3520	7224	7413

* Dig depth with blade down.

G	H	I	J	K	L	M	N	O
472	386	2062	2600	1965	2150 2300*	6048	1582	360

P	Q	R	S	T	U	V	W	X
472	450*	731	2570	2139	2585	4470	2050	1585

* Wide steel tracks (600 mm) (optional)

in mm

LOAD CAPACITIES - ARTICULATED BOOM

These capacities are given for a machine without a bucket or quick-release coupling and fitted with rubber tracks. The handling capacity is 75% of the tipping load or 87% of the hydraulic limit.

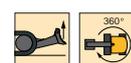
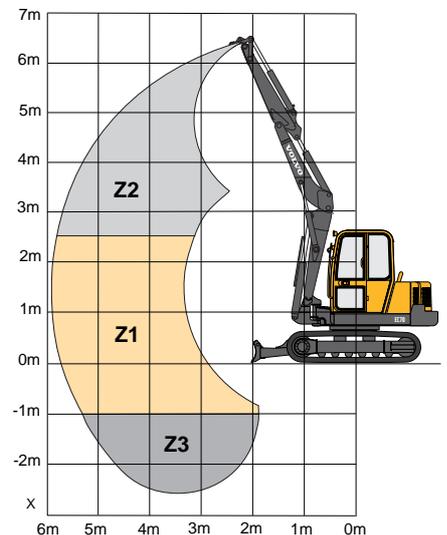
Caution : In accordance with standard EN 474-5, the machine must be equipped with a safety valve on the boom ram and an overload indicator (available as options) to carry out handling operations.

Horizontal Range			2.50 m	3.00 m	4.00 m	5.00 m	max 6.0 m
			Z2	1645*	1090*	985	
			Z1	2415*	1730*	1090*	885
			Z3	2400	1800	1195	885

Horizontal Range			2.50 m	3.00 m	4.00 m	5.00 m	max 6.4 m
			Z2	1755*	1140*	885*	
			Z1	2270*	1675*	1145*	860
			Z3	2330	1760	1170	860

* hydraulic limit

in kg



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



ENGINE

Water-cooled 4-cylinder Mitsubishi S4S diesel engine.

Displacement, total3331 cc
Power, installed (SAE J1349).....41.2 kW (56 hp) at 2200 r/min
Maximum torque (SAE J1349)196 Nm at 1550 r/min
Bore x stroke94 mm x 120 mm



ELECTRICAL SYSTEM

Rated voltage12 V
Battery capacity12 V - 90 Ah
Alternator rating12 V - 50 A
Starter motor output.....12 V - 2.2 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 flow.....160 l/min
Maximum operating pressure25 MPa (250 bars)

Gear pump for the circuit of the blade and slewing :

Maximum flow60 l/min
Maximum operating pressure26 MPa (260 bars)

Double-acting hydraulic circuit for accessories :

Maximum flow90 l/min
Maximum operating pressure25 MPa (250 bars)

End-of-stroke cushioning

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



SLEWING SYSTEM

360° 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 speed11 r/min
Turntable brakingautomatic multi-disc brake
Absorption of hydraulic shocksHydrosensor shockless valve



BUCKET PERFORMANCE

Breakout force5190 daN
Tearout force3450 daN



UNDERCARRIAGE

The rollers and the tensioning wheels are lubricated for life.

Bottom/top rollers per side6 / 1
Track width450 mm
Wide steel tracks as an option600 mm
Track tensionby grease piston
Blade (width x height).....2200 x 486 mm

The blade cylinders is equipped with a safety valve.



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)2.5 - 5.1 km/h
Max. tractive force6350 daN



SERVICE FILL CAPACITIES

Fuel tank110 l
Hydraulic system, total73 l
Hydraulic tank131 l
Engine oil10 l
Cooling system.....15 l



WEIGHT

Operational weight and ground pressure, with cab and 450 mm tracks :

	Rubber Tracks	Steel Tracks
Single-piece boom	7035 kg 0.39 kg/cm ²	7340 kg 0.40 kg/cm ²
Articulated boom	7145 kg 0.40 kg/cm ²	7450 kg 0.41 kg/cm ²



NOISE LEVELS

Results of dynamic measurements :

Noise level exterior (LwA)100 dB(A)
Noise level in the cab (LpA)83 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 - 90 Ah battery.
Horn.
12 V power socket for inspection lamp.

Undercarriage

450 mm wide rubber tracks.
Dozer blade.
Towing and anchoring rings.
Remote lubrication of the slewing crown ring.
Safety valve on the blade cylinders.

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.
Control of forward movement by two levers coupled to pedals.

Cab

Level 1 FOPS (Falling Objects 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).
Device for automatic switching off of engine in the event of overheating or drop in oil pressure.

Handling and earthwork equipment

3100 mm long monobloc boom or articulated boom.
1800 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.
Electromagnetic compatibility (EMC) conforming to directive n° 89/336 EEC and its amendments.

OPTIONAL EQUIPMENT

Working equipment

Long dipper (2200 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

Steel tracks (450 mm wide).
Wide steel tracks (600 mm wide).

Lighting

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

Environmental protection

Bio-degradable hydraulic oil.

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

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