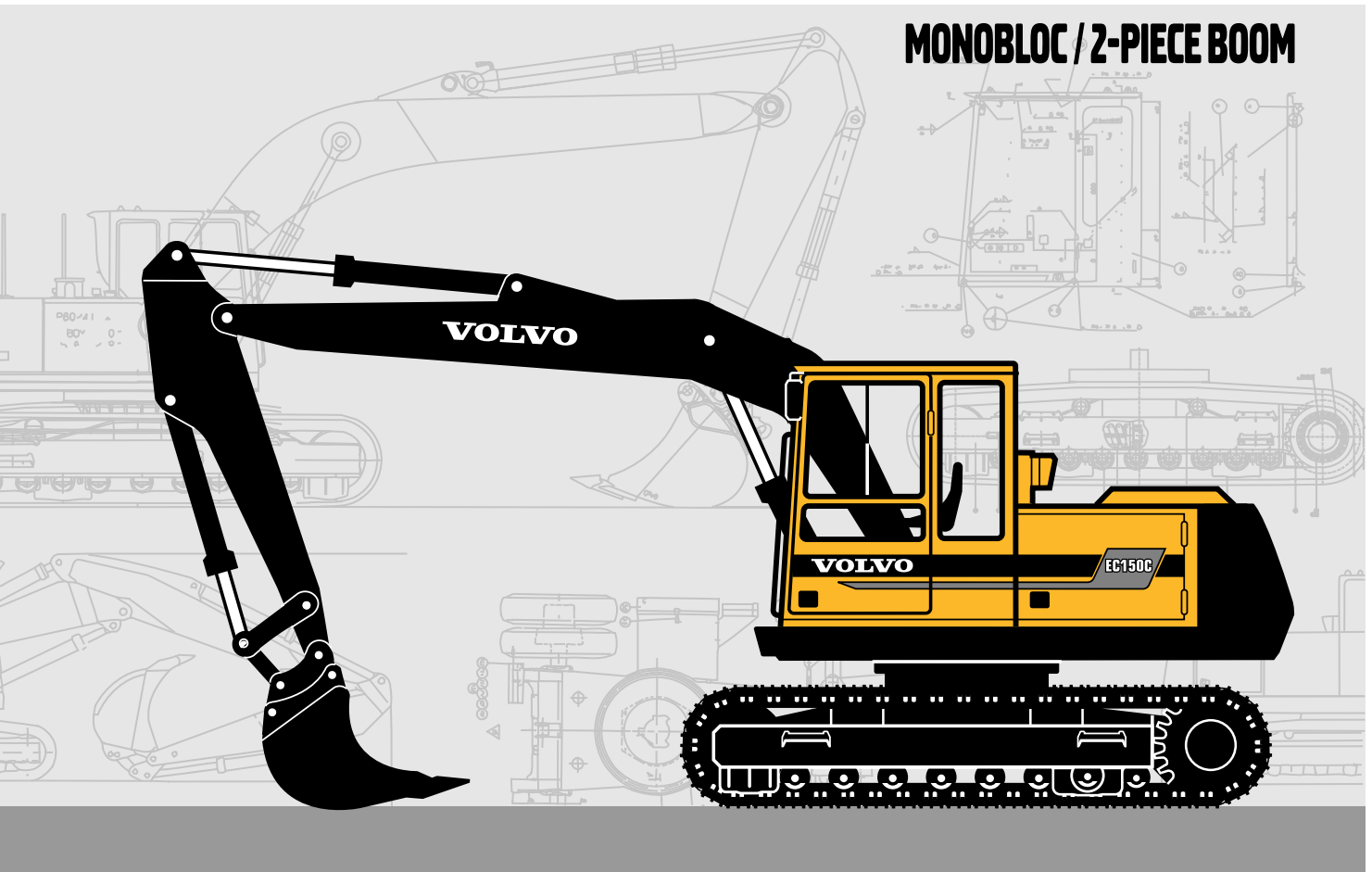


# VOLVO EXCAVATOR

# EC150C

## MONOBLOC / 2-PIECE BOOM



- **Engine power, gross:**  
81 kW, 110 hp

- **Operating Weight:**  
14,7 – 15,8 t  
32,400 – 34,850 lb

- **Buckets:**  
160 – 700 l  
0.21 – 0.92 yd<sup>3</sup>

- Low emission, turbocharged, diesel engine with direct injection and intercooler

- Care cab
  - computerized control and warning system
  - ergonomic environment
  - low sound level
  - filtered air

- Three-circuit hydraulic system with pump regulation PSC. (Pressure Sensing Control)

- Highest flexibility for extra equipment / hydraulics

- Hydraulic quick fit

- High crawler speed – 5,4 km/h,  
3.4 mph

# VOLVO



## ENGINE

The engine is a low emission, turbocharged, 4-stroke diesel engine with water cooling, direct injection and intercooling.

Model .....	TD 40 KEE	
Output at .....	33,3 r/s	<b>2000 rpm</b>
Net (ISO 9249/SAE J1349) .....	78 kW	<b>106 hp</b>
Gross (SAE J1349) .....	81 kW	<b>110 hp</b>
No. of cylinders .....	4	<b>4</b>
Displacement, total .....	4,0 l	<b>244 in<sup>3</sup></b>
Bore .....	100 mm	<b>3.94 in</b>
Stroke .....	127 mm	<b>5.00 in</b>



## ELECTRICAL SYSTEM

Micro processor for monitoring of engine / hydraulic system. High capacity and well protected electric system. Printed, circuit board-based electrical system with clearly arranged fuses and relays. The system is designed to accept optional equipment. Battery disconnect standard.

Voltage .....	24 V
Battery .....	4 x 12 V
Battery capacity .....	120 Ah
Alternator .....	28/60 V/A
Alternator rating .....	1680 W



## DRIVE TRAIN

Each track is powered by an axial piston hydraulic motor. Multi-disc track brakes are spring applied and hydraulically released. Motor, brakes and planetary gears are fully enclosed in the crawler frame.

Max. tractive force .....	147 kN	<b>33,050 lbf</b>
Max. travel speed .....	5,4 km/h	<b>3.4 mph</b>
Gradeability, continuously .....	48,7°	<b>(114 %)</b>



## SERVICE REFILL CAPACITIES

Fuel tank .....	225 l	<b>59.4 gal</b>
Fuel pump capacity .....	90 l/min	<b>23.8 gpm</b>
Hydraulic system, total .....	220 l	<b>58.1 gal</b>
Diesel engine oil .....	8,1 l	<b>2.1 gal</b>
Cooling system (incl. antifreeze) .....	35 l	<b>9.2 gal</b>
Swing gearbox .....	15 l	<b>4.0 gal</b>



## UNDERCARRIAGE

Heavy duty box designed body with solid swing circle support.

Lifetime lubricated rollers and front idlers.

Track chain size .....	B4HD	
No. of track shoes .....	2 x 47	
Track width – standard .....	600 mm	<b>23.6"</b>
optional .....	750/900 mm	<b>29.5"/35.4"</b>
No. of bottom rollers .....	2 x 8	
Skid rail .....	2 x 2	



## CARE CAB

The operator's cab offers a heavy-duty supporting frame structure. Large windows provide excellent 360° visibility. The upper front window slides up under the ceiling, and the lower one can be removed for ventilation. A sliding side window in the cab door provides additional crossventilation.

**Heater and defroster:** Air for the operator's cab is recirculated through a unique micro / macro filtration system. A 3-speed fan provides efficient heating and defrosting through 14 vents. Prepared for air conditioning.

**Operator's seat:** Adjustable suspension operator's seat with heating, headrest and individually adjustable armrests. Hand controls are conveniently located.

**Acoustics:** Approved according to 86/662/EEC.

Exterior noise (ISO 6393)	
Average value L <sub>WA</sub> (sound power level) .....	99 dB(A)
Operators position (ISO 6394)	
with the door closed	
L <sub>PA</sub> (sound pressure level) .....	75 dB(A)



## SWING SYSTEM

The superstructure is rotated by an axial piston motor through a servo-released swing brake, into the two-step swing gear giving torque to the inner tooth race of the swing circle.

Swing, start to stop*	
90° turn .....	<b>3.8 seconds</b>
180° turn .....	<b>5.8 seconds</b>
Swing speed .....	<b>9.4 rpm</b>

\* Empty bucket and equipment extended.



## HYDRAULIC SYSTEM

All-servo controlled, 3-circuit hydraulic system.

**Pumps:** P1 is a pressure and power controlled variable axial piston pump with priority to the swing circuit. P2/P3 is a dual power controlled variable piston pump.

**The Mode Selector** has three working programs.

### Excavating:

**ECO** = Completely separated movements for the best excavating precision

**CAP** = Capacity – all three pumps can be used for the excavating movement

**HLD** = To increase the lifting capacity by 20 % (temporarily selectable in 10 seconds)

**Valve system:** The valve blocks are of monobloc type with possibility to use all three working pumps for all three movements of the digging equipment. There are valves prepared for two additional functions.

Float position function on the boom movement gives better operator comfort, less bucket wear and quicker digging equipment extension.

Standard hose rupture valve on the boom cylinder.

### Pump P1

Max. pressure ..... 28 MPa      **4060 psi**  
 Max. flow ..... 77 l/min      **20.3 gpm**

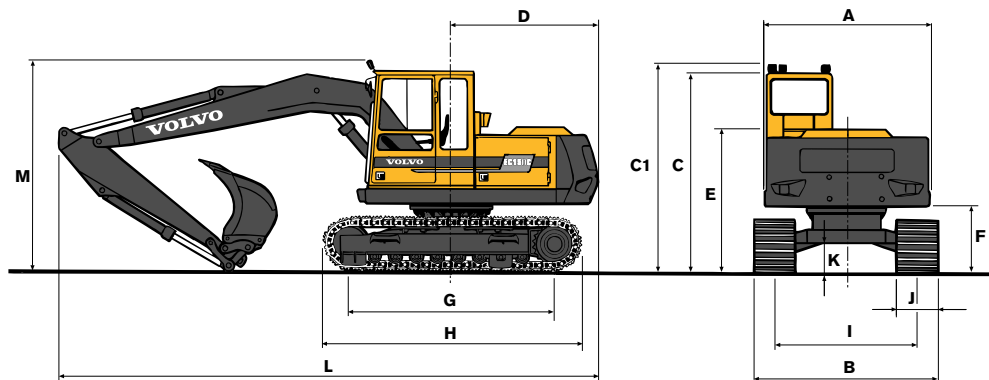
### Pumps P2 and P3

Max. pressure ..... 30 MPa      **4350 psi**  
 Max. pressure with HLD ..... 34 MPa      **4950 psi**  
 Max. flow ..... 2x106 l/min      **2x28.0 gpm**

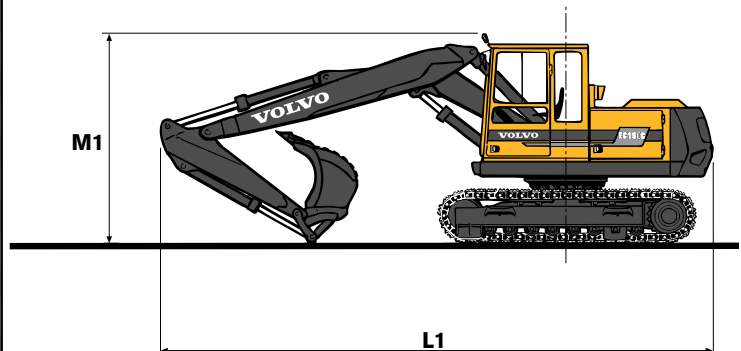
### Servo pump

Pressure ..... 6,5 MPa      **940 psi**  
 Flow ..... 23 l/min      **6.1 gpm**

## DIMENSIONS

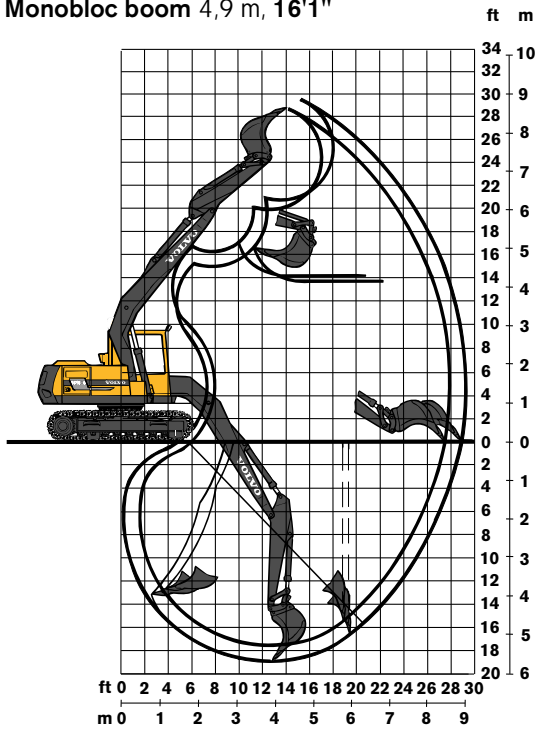


A	2430 mm	8'
B	2700/2850/3000 mm	8'10"/9'4"/9'10"
C	2900 mm	9'6"
C1	3040 mm	10'
D	2170 mm	7'1"
E	2080 mm	6'10"
F	970 mm	3'2"
G	3030 mm	9'11"
H	3790 mm	12'5"
I	2100 mm	6'11"
J	600/750/900 mm	23.6"/29.5"/35.4"
K	450 mm	1'6"
L	8000 mm	26'3"
L1	8060 mm	26'5" (2,0 m, 6'7" stick)
L1	8020 mm	26'4" (2,4 m, 7'10" stick)
M	3040 mm	10' (2,0 and 2,4 m, 6'7" and 7'10" stick)
M1	3040 mm	10' (2,0 and 2,4 m, 6'7" and 7'10" stick)

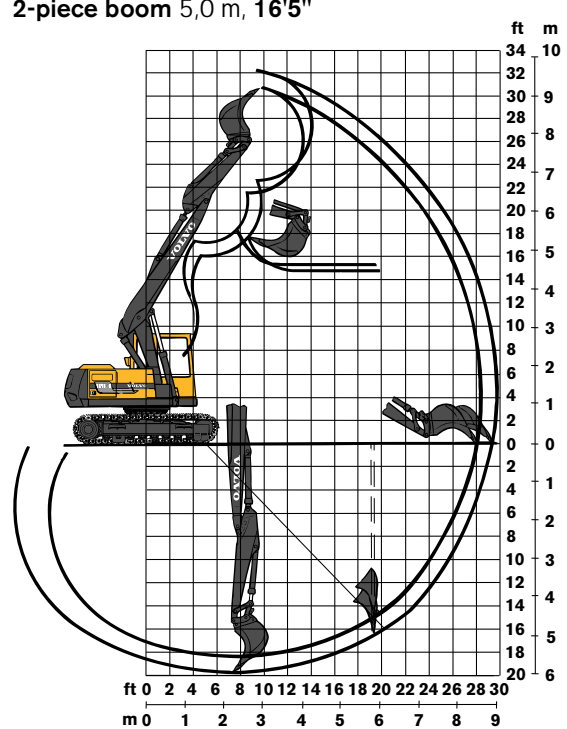


## WORKING RANGES

**Monobloc boom 4,9 m, 16'1"**



**2-piece boom 5,0 m, 16'5"**



		Boom 4,9 m, 16'1				Boom 5,0 m, 16'5			
Stick .....	m, ft	2,0	2,4	6'7"	7'10"	2,0	2,4	6'7"	7'10"
Max. reach .....	m, ft	8,5	8,9	27'11"	29'2"	8,6	8,9	28'3"	29'2"
Max. reach at ground level .....	m, ft	8,3	8,7	27'3"	28'7"	8,4	8,8	27'7"	28'10"
Max. digging depth .....	m, ft	5,3	5,7	17'5"	18'8"	5,5	5,9	18'1"	19'4"
Max. height, ground-tooth tip .....	m, ft	8,6	8,9	28'3"	29'2"	9,3	9,6	30'6"	31'6"
Max. dumping height .....	m, ft	5,9	6,2	19'4"	20'4"	6,6	6,9	21'8"	22'8"
Max. pract. dumping height .....	m, ft	4,3	4,2	14'1"	13'9"	4,7	4,5	15'5"	14'9"
Pract. digging depth for a material with a 45° angle of repose .....	m, ft	4,3	4,7	14'1"	15'5"	4,4	4,7	14'5"	15'5"
Max. vertical digging depth .....	m, ft	4,6	4,9	15'1"	16'1"	4,3	4,8	14'1"	15'9"
Min. swing radius in front .....	m, ft	3,0	3,1	9'10"	10'2"	2,6	2,8	8'6"	9'2"

## DIGGING FORCE

Bucket digging force* .....	86 kN	19,330 lbf	* Bucket 600 l, 0.78 yd³ SAE and quick fit.
Stick force*			
with 2,0 m, 6'7" stick .....	63 kN	14,160 lbf	
with 2,4 m, 7'10" stick .....	56 kN	12,590 lbf	

## BUCKET AND STICK COMBINATIONS

BUCKETS for quick fit	Volume SAE l	Cutting width mm	Weight kg	Volume SAE yd³	Cutting width in	Weight lb	suitable for			
							Monobloc boom 4,9 m, 16'1" and stick		2-piece boom 4,62 m, 16'5" and stick	
							2,0 m 6'7"	2,4 m 7'10"	2,0 m 6'7"	2,4 m 7'10"
Backhoe bucket 1,8 t/m³ 3030 lb/yd³	500	930	390	0.65	37"	860	•	•	•	•
	600	1 000	450	0.78	39"	990	•	•	•	•
	700	1 070	490	0.92	42"	1080	•	•	•	•
Articulated slope bucket 1,5 t/m³ 2530 lb/yd³	450	1 400	500	0.59	55"	1100	•	•	•	•
	480	2 000	520	0.63	79"	1150	•	•	•	•
Trenching bucket	160	400	270	0.21	16"	600	•	•	•	•
	170	490	235	0.22	19"	520	•	•	•	•
	290	600	320	0.38	24"	710	•	•	•	•















## WEIGHT AND GROUND PRESSURE

Machine with 4,9 m, **16'1"** monobloc boom,  
2,4 m, **7'10"** stick, quick fit, 600 l, **0.78 yd<sup>3</sup>** bucket and  
2 500 kg, **5510 lb** counterweight.

Machine with 5,0 m, **16'5"** 2-piece boom,  
2,4 m, **7'10"** stick, quick fit, 600 l, **0.78 yd<sup>3</sup>** bucket and  
2 500 kg, **5510 lb** counterweight.

Track shoes	Machine weight		Ground pressure			
600 mm <b>23.6"</b>	14 700 kg <b>32,400 lb</b>	15 100 kg <b>33,300 lb</b> (2-piece boom)	36,4 kPa <b>5.3 psi</b>	37,4 kPa <b>5.4 psi</b>	(2-piece boom)	
750 mm <b>29.5"</b>	15 050 kg <b>33,200 lb</b>	15 450 kg <b>34,050 lb</b> (2-piece boom)	29,8 kPa <b>4.3 psi</b>	30,6 kPa <b>4.4 psi</b>	(2-piece boom)	
900 mm <b>35.4"</b>	15 400 kg <b>33,950 lb</b>	15 800 kg <b>34,850 lb</b> (2-piece boom)	25,4 kPa <b>3.7 psi</b>	26,1 kPa <b>3.8 psi</b>	(2-piece boom)	

## LIFTING CAPACITIES *(In the quick fit lifting hook without bucket. Unit: pounds)*

 Across carriage  Along carriage	Lifting hook related to ground level	Reach from machine centerline										
		10'		15'		20'		25'		Max. reach		Max. ft.
												
4,9 m, <b>16'1"</b> boom 2,0 m, <b>6'7"</b> stick Quick fit 600 mm, <b>23.6"</b> track shoes	15'			7110*	7110*	5610	6520*			4680	5480*	22.4
	10'			8080	8760*	5390	7210*			4030	4950*	24.3
	5'			7570	10,750*	5150	7590			3800	4960*	24.9
	0'			7340	11,250	4990	7420			3870	5690*	24.3
	-5'	13,720	16,370*	7300	11,210	4950	7370			4290	6330	22.5
	-10'	13,520*	13,520*	7420	9470*					5420	6800*	19.1
4,9 m, <b>16'1"</b> boom 2,4 m, <b>7'10"</b> stick Quick fit 600 mm, <b>23.6"</b> track shoes	25'			5710*	5710*					5710*	5710*	15.0
	20'					5900*	5900*			4760*	4760*	20.7
	15'			6420*	6420*	5650	6010*			4220	4330*	23.9
	10'			8150*	8150*	5420	6810*	3860	5640	3710	4270*	25.6
	5'			7640	10,220*	5160	7610	3760	5520	3520	4620*	26.1
	0'			7320	11,260	4970	7400	3680	5430	3560	4860*	25.6
	-5'	13,520	15,040*	7240	11,170	4890	7320			3880	5040*	24.0
-10'	13,650	14,670*	7320	10,090*	5000	7090*			4760	6500*	20.8	
5,0 m, <b>16'5"</b> 2-piece boom 2,0 m, <b>6'7"</b> stick Quick fit 600 mm, <b>23.6"</b> track shoes	20'			8290*	8290*					5820*	5820*	19.3
	15'	11,960*	11,960*	8760	9050*	5630	7590*			4560	5390*	22.7
	10'			8070	10,280*	5360	7890			3930	5290*	24.5
	5'			7450	11,380*	5070	7570	3700	5500	3680	5310*	25.1
	0'			7160	11,120*	4870	7350			3710	5370*	24.6
	-5'	12,360*	12,360*	7100	9680*	4810	7100*			4090	5510*	22.8
5,0 m, <b>16'5"</b> 2-piece boom 2,4 m, <b>7'10"</b> stick Quick fit 600 mm, <b>23.6"</b> track shoes	25'			6670*	6670*					5840*	5840*	15.4
	20'			7660*	7660*	5790	6790*			4840*	4840*	21.0
	15'	9230*	9230*	8510*	8510*	5690	7220*			4110	4240*	24.2
	10'			8250	9840*	5420	7740*	3820	5640	3590	4080*	25.9
	5'			7550	11,150*	5100	7610	3690	5500	3390	4400*	26.4
	0'			7170	11,170*	4870	7350	3580		3420	4620*	25.9
	-5'	13,190	13,850*	7050	10,160*	4760	7240			3730	5310*	24.2
	-10'			7130	7580*	4840	5180*			4610	4610*	20.8

\* Limited by hydraulic lifting capacity.

The above loads are in compliance with ISO standard 10567. They do not exceed 87 % of hydraulic lifting capacity or 75 % of tipping load, with the machine on firm and level ground. Working pressure with HLD = 34 MPa/340 bar, **4930 psi**.

## STANDARD EQUIPMENT

### Engine and Electrical System

Computer controlled monitoring system  
 Battery disconnecter and main fuel cock  
 Key switch-off  
 3-step air filter:  
 precyclone  
 main filter  
 safety filter  
 with electronic service indicator  
 Hour meter  
 Tachometer  
 Fuel gauge  
 Temperature gauge for cooling fluid and hydraulic oil  
 Electric preheating element  
 24 V electrical system with 4 standard batteries  
 Exhaust pipe elbow

### Undercarriage

600 mm, **23.6"** track shoes with mud holes  
 Triple grousers  
 Hydraulic track adjuster  
 Derailing shields, 3 pcs/side  
 Skid rails

### Superstructure

Counterweight 2500 kg, **5510 lb**

### Safety and Comfort

Safety bar for control levers  
 Hose rupture valve on boom cyl.  
 Hydraulic refueling pump, 90 l/min, **23.8 gpm**  
 Overload indicator  
 Electronic end position damper for boom  
 Lights (halogen):  
 5 working lights, front  
 1 working light, rear  
 Instrument lighting  
 Illuminated cab, engine compartment and fuel filling compartment  
 Rear view mirrors: 1 interior  
 3 exterior (monobloc boom)  
 4 exterior (2-piece boom)  
 Ergonomically designed and adjustable operator's seat, with heating coils  
 Cab heating with 14 vents  
 Filtered air intake  
 Cab skylight  
 Sliding window in the cab door  
 Emergency exit through rear window  
 Tinted windows (clear front)  
 Internal sun visor  
 Double intermittent windshield wipers  
 Windshield washers  
 Compressor horn  
 Radio console

### Hydraulics

Float position on boom  
 One variable power and pressure axial piston pump to swing circuit  
 One dual power controlled axial piston working pump  
 Mode selector, 3 steps  
 Power boost (HLD)  
 Standard filter cartridges for return, leak oil and breathing filter  
 Swing-out oil cooler  
 Hydraulic equipment for quick fit

### Equipment

4,9 m, **16'1"** monobloc boom  
 2,4 m, **7'10"** stick  
 Hydraulic quick fit  
 End dampening on all cylinders  
 Security lifting hook  
 Friction welded piston rod eyes

## OPTIONAL EQUIPMENT

### Engine and Electrical System

Electric over speed protector  
 Volvo diesel driven engine and cab heater with digital timer  
 Immersion heater, 220 V  
 Exhaust ejector  
 Oil bath precleaner for inlet air

### Undercarriage

750/900 mm, **29.5"/ 35.4"** track shoes  
 Dozer blade, front

### Safety and Comfort

Protective grid for front window  
 Protective grid for roof window (FOPS-approved)  
 Protective roof over cab (FOPS-approved)  
 Fire extinguisher  
 Seat belts  
 Rotating beacon  
 Rear lights  
 Protection against over filling fuel  
 Extra circulation pump for the heating system  
 Extra hose rupture valves  
 Exterior glare shields  
 Rear window jalousie  
 Air conditioning  
 Micro filter for the cab  
 Radio and cassette player

### Hydraulics

Biologically degradable oil  
 Hydraulic equipment for:  
 slope bucket  
 grapple  
 hydraulic hammer  
 2-piece boom

### Equipment

5,0 m, **16'5"** 2-piece boom  
 2,0 m, **6'7"** stick  
 Extra headlights on the boom  
 Hammer plate  
 Grab holder  
 Ripper tooth

*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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