

Åkerman EC230B

Monobloc- / 2-piece boom



- **Engine Power:**
122 kW (166 hp)
- **Operating Weight:**
23,2 – 24,6 t
- **Buckets:**
800 – 1 300 l

- *Direct injection, turbocharged Volvo diesel engine*
- *Three-circuit multilevel priority hydraulic system.*
- *COS = Capacity Optimized System – all three pumps for the digging movements. Mode Selector and electronically controlled pump regulation (SSC = Speed Sensing Control)*
- *Comfort cab.*
 - *computerized control and warning system*
 - *ergonomic environment*
 - *low sound level*
 - *filtered air*

- *Long undercarriage for high stability*
- *High crawler speed 5,2 km/h*
- *Heavy duty equipment with spherical bearings*
- *Digging and breakout forces for tough conditions*
- *Highest flexibility for extra equipment/hydraulics*

ENGINE



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

Make		Volvo
Model		TD 61 GE
Net output at ISO 3046 / DIN 6271*	r/s (r/min)	35 (2100)
	kW (hp)	122 (166)
No. of cylinders		6
Displacement, total	l	5,48
Bore	mm	98,43
Stroke	mm	120

* Fan excluded

UNDERCARRIAGE



Heavy duty box-designed body with solid slew ring support. Lifetime lubricated rollers and front idlers.

Track chain size		D55
No. of track shoes		2 x 50
Track width	mm	600
alt.	mm	700/800/900
No. of bottom rollers		2 x 9
No. of top rollers		2 x 2
alt. skid rails		2 x 1

ELECTRIC SYSTEM



Micro processor for monitoring of engine/hydraulic system. High capacity and well protected electric system. Printed circuit board based electric central with clearly arranged fuses and relays. Central prepared for connection optional equipment. Battery disconnecter standard.

Voltage	V	24
A.C. Generator	V/A	28/55
Battery	V	4 x 12
Battery capacity	Ah	120
Alternator rating	W	1540

CAB



Operator's cab with a supporting frame structure. Large panes for all round good visibility. The upper front pane can be pushed up in the ceiling, and the lower one can be removed. Sliding window in the cab door.

Heater and defroster: Pressurized and filtered cab. A 3-speed fan provides efficient heating and defrosting through 14 outlets. Prepared for Air Conditioning.

Operator's seat: Adjustable suspension operator's seat with heating coils, headrest and individually adjustable armrests and hand controls.

Acoustics: Approved according to 86/662/EEC.

Exterior noise (ISO 6393)		
Average value L_{WA} (sound power level)	dB(A)	108
Operators position (ISO 6394)		
with the door closed		
L_{pA} (sound pressure level)	dB(A)	77

DRIVE TRAIN



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

Max. tractive force	kN	222	(164)*
Max. travel speed	km/h	5,2	
Gradeability, continuously	° (%)	45	(100)

* Net

SERVICE REFILL CAPACITIES



Fuel tank	l	340
Fuel pump capacity	l/min	60
Hydraulic system, total	l	400
Diesel engine	l	22
Cooling system (incl. glycol)	l	32
Slew ring	l	17

SLEWING SYSTEM



The superstructure is slewed by an axial piston motor through a servo released slew brake, into the two-step slew gear giving torque to the inner tooth race of the slew ring. The entire slew ring runs in a dust protected oil bath.

Slew, start to stop*		
90° turn	s	5,2
180° turn	s	7,1
Slew speed	r/min	7,4

* Empty bucket and extended equipment.

HYDRAULIC SYSTEM



3-circuit multilevel priority system all-servo controlled.

Pumps: P1 is a pressure controlled variable pump with priority to slew circuit. P2 and P3 are power and pressure controlled variable pumps with opposite cross flow priority to boom, bucket and arm.

Mode selector: Three working modes:

HLD = Heavy Lift Device

ECO = Economy

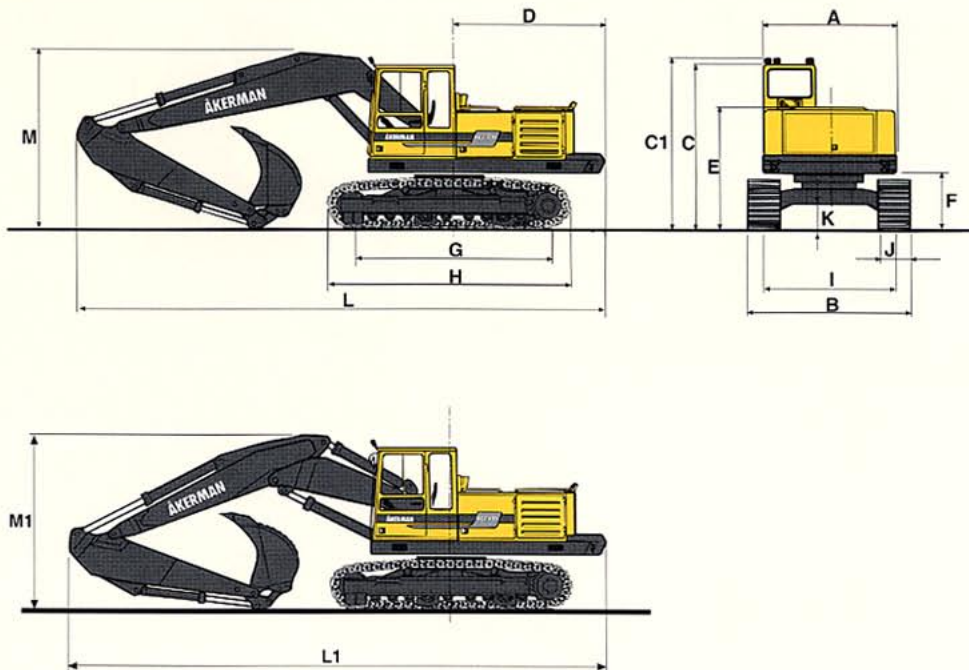
CAP = Capacity

Powerboost temporarily selectable 10 sec. even in Economy and Capacity mode.

Valve system: Boom, arm and bucket are operated by dual main valves to obtain best combination of precision manoeuvrability and minimized fuel consumption. Boom cylinder equipped with floating position valve for improved comfort and increased digging speed. Security hose rupture valve on the boom cylinder.

Pump P1			
Max. pressure	MPa		26
Max. flow	l/min		88
Pumps P2 and P3			
Max. pressure	MPa		28
Power boost	MPa		32
Max. flow	l/min		2 x 142
Servo pump			
Pressure	MPa		6,5
Flow	l/min		20

DIMENSIONS



A: mm 2490	I: mm 2400	M: mm 3200 (5,2 m boom and 2,25 m arm)
B: mm 2990/3090/3190/3290	J: mm 600/700/800/900	M: mm 3250 (5,2 m boom and 2,80 m arm)
C: mm 3010	K: mm 470	M: mm 3870 (5,2 m boom and 3,30 m arm)
C1: mm 3150	L: mm 9020 (5,2 m boom and 2,25 m arm)	M: mm 3210 (5,7 m boom and 2,25 m arm)
D: mm 2870	L: mm 9040 (5,2 m boom and 2,80 m arm)	M: mm 3240 (5,7 m boom and 2,80 m arm)
E: mm 2220	L: mm 8980 (5,2 m boom and 3,30 m arm)	M: mm 3720 (5,7 m boom and 3,30 m arm)
F: mm 1030	L: mm 9740 (5,7 m boom and 2,25/2,80 m arm)	M1: mm 3280 (2,25 m arm)
G: mm 3730	L: mm 9580 (5,7 m boom and 3,30 m arm)	M1: mm 3250 (2,80 m arm)
H: mm 4540	L1: mm 9900	M1: mm 3710 (3,30 m arm)

WEIGHT AND GROUND PRESSURE















Machine with 5,2 m monobloc boom, 2,25 m dipper arm, quickfit, 1 300 l bucket and 3 500 kg counterweight.

Machine with 5,9 m 2-piece boom, 2,25 m dipper arm, quickfit, 1 300 l bucket and 3 500 kg counterweight.

Track shoes	Machine weight				Ground pressure			
600 mm	23 200 kg	23 900 kg	(2-piece boom)		47,3 kPa	48,6 kPa (2-piece boom)		
700 mm	23 200 kg	23 900 kg	(2-piece boom)		40,5 kPa	41,7 kPa (2-piece boom)		
800 mm	23 500 kg	24 200 kg	(2-piece boom)		35,8 kPa	36,9 kPa (2-piece boom)		
900 mm	23 900 kg	24 600 kg	(2-piece boom)		32,5 kPa	33,3 kPa (2-piece boom)		

LIFTING CAPACITIES

In the quickfit lifting hook without bucket. Unit: 1 000 kg.

 Across carriage  Along carriage	Lifting hook related to ground level	Reach from machine centre											
		4,5 m		6,0 m		7,5 m		9,0 m		Max. reach			
												Max. m	
Monobloc boom – 5,2 m 2,25 m arm Quickfit 600 mm track shoes	6,0 m												
	4,5 m			4,8	5,3 *	3,4	5,0 *			3,2	4,1 *	7,9	
	3,0 m	6,7	8,0 *	4,5	6,2 *	3,3	5,3 *			2,8	3,0 *	8,4	
	1,5 m	6,3	9,7 *	4,3	6,9 *	3,2	5,3			2,7	4,2 *	8,4	
	0,0 m	6,3	10,3 *	4,2	7,1	3,1	5,2			2,8	4,2 *	8,2	
	-1,5 m	6,2	9,9 *	4,1	7,1	3,1	5,2			3,1	5,1 *	7,6	
	-3,0 m	6,3	8,6 *	4,3	6,3 *					3,8	5,4 *	6,6	
Monobloc boom – 5,2 m 2,80 m arm Quickfit 600 mm track shoes	6,0 m					3,6	3,9 *			3,0 *	3,0 *	7,7	
	4,5 m			4,8 *	4,8 *	3,5	4,6 *			2,9	3,1 *	8,4	
	3,0 m	6,9	7,2 *	4,6	5,7 *	3,3	5,0 *			2,6	3,0 *	8,8	
	1,5 m	6,4	9,3 *	4,3	6,6 *	3,2	5,3			2,5	3,0 *	8,9	
	0,0 m	6,2	10,1 *	4,2	7,1	3,1	5,2			2,5	3,1 *	8,7	
	-1,5 m	6,1	10,0 *	4,1	7,0	3,0	5,1			2,7	3,2 *	8,2	
	-3,0 m	6,2	9,2 *	4,1	6,8 *					3,3	4,7 *	7,2	
Monobloc boom – 5,7 m 2,25 m arm Quickfit 600 mm track shoes	6,0 m					3,5	4,6 *			3,3	3,6 *	7,8	
	4,5 m	6,5 *	6,5 *	4,7	5,4 *	3,4	4,8 *			2,8	3,8 *	8,5	
	3,0 m	6,5	8,4 *	4,4	6,2 *	3,2	5,2 *			2,5	3,5 *	8,9	
	1,5 m			4,2	6,9 *	3,1	5,2			2,4	4,1	8,9	
	0,0 m	6,0	10,1 *	4,0	7,0	3,0	5,1			2,5	4,2	8,7	
	-1,5 m	6,1	9,6 *	4,0	7,0	3,0	5,1			2,7	4,5	8,2	
	-3,0 m	6,2	8,4 *	4,1	6,3 *					3,2	4,7 *	7,3	
5,9 m 2-piece boom 2,25 m arm Quickfit 600 mm track shoes	9,0 m	5,6 *	5,6 *							5,2 *	5,2 *	4,6	
	7,5 m			5,3	5,9 *					4,3	4,4 *	6,7	
	6,0 m	7,3 *	7,3 *	5,1	6,0 *	3,5	5,3 *			3,2	4,0 *	7,9	
	4,5 m	7,2	8,4 *	4,7	6,5 *	3,3	5,4 *			2,7	4,1 *	8,6	
	3,0 m	6,3	9,5 *	4,3	6,9 *	3,1	5,3	2,4	3,9 *	2,4	3,9 *	9,0	
	1,5 m			4,0	7,0	3,0	5,1	2,3	3,9	2,2	3,8 *	9,1	
	0,0 m	5,7	8,9 *	3,8	6,8	2,8	4,9			2,2	3,9	8,9	
-1,5 m	5,8	7,4 *	3,8	6,0 *	2,8	4,6 *			2,4	3,7 *	8,4		

* 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, level ground.
 Working pressure with HLD = 32 MPa (320 bar)

STANDARD EQUIPMENT

Engine and Electrical System

Computer controlled monitoring system
 Battery disconnecter and main fuel tap
 Automatic idling speed (Fuel-miser)
 Air filter with indicator
 Hour meter
 Revs counter
 Fuel meter
 Temperature meter for cooling fluid and hydraulic oil
 Electric preheating element
 24 volt electrical system with 4 standard batteries
 Cranked exhaust pipe

Undercarriage

Slew ring in oil bath
 600 mm track shoes with mud holes
 Triple grousers
 Hydraulic track adjuster
 Derailing shields, 3 pcs
 Top rollers, 2 pcs

Superstructure

Counterweight 3500 kg

Safety and Comfort

Safety bar for control levers
 Hose rupture valve on boom cylinder
 Hydraulic refuelling pump, 60 l/min
 Over load indicator
 Lights (halogen):
 5 working lights, front
 1 working light, rear
 Instrument lighting
 Illuminated cab, engine compartment and fuel filling compartment
 Rear view mirrors, 4 exterior, 1 interior
 Cab heating with 14 outlets
 Ergonomically designed and adjustable operator's seat, with heating coils
 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 windscreen wipers
 Windscreen washers
 Compressor horn
 Radio console

Hydraulics

Float position on boom
 Three variable axial piston working pumps
 Mode selector, 3 steps
 Power boost
 Dual main valve for the travel and equipment functions
 Standard filter cartridges for return, leak oil and respiration filter systems
 Swing-out oil cooler
 Hydraulic equipment for quickfit

Equipment

5,2 m monobloc boom
 2,25 m dipper arm
 Hydraulic quickfit
 End dampening on all cylinders
 Spherical link bearings in all connections
 Security lifting hook
 Friction welded piston rod eyes

OPTIONAL EQUIPMENT *(Standard on certain markets)*

Engine and Electrical System

Electric over speed protector
 Volvo diesel driven engine and cab heater, with digital timer
 Immersion heater, 220 V
 Precyclone with exhaust ejector

Undercarriage

700/800/900 mm track shoes
 Asymmetrical track shoes
 Skid rails
 Tool box

Safety and Comfort

Protective grid for front pane/roof pane
 Fire extinguisher
 Seat belts
 Rotating beacon
 Protection against overflowing fuel
 Extra circulation pump for the heating system
 Extra hose rupture valve on dipper arm/bucket cylinders
 Rear lights
 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
 grab
 hydraulic hammer
 jib
 crusher
 shears
 magnet
 Installation of a 4th working pump

Equipment

5,7 m monobloc boom
 5,9 m 2-piece boom
 2,8 m and 3,3 m dipper arm
 Extra headlights on the boom

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 Construction Equipment

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