



Åkerman EC230B



- **Engine Power:**
166 hp (122 kW)
- **Operating Weight:**
50,700 – 52,900 lbs (23 – 24 t)
- **Buckets:**
0.92 – 1.70 cu.yd. (700 – 1300 l)
- Direct injection, turbocharged Volvo diesel engine
- Åkerman 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 – 3.2 mph (5.2 km/h)
- Heavy duty equipment with spherical bearings
- Digging and breakout forces for tough conditions
- Highest flexibility for extra equipment/hydraulics

ÅKERMAN

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	rpm	(r/s)	2100 (35)
ISO 3046 / DIN 6271*	hp	(kW)	166 (122)
No. of cylinders	6		
Displacement, total	cu.in	(l)	334 (5.48)
Bore	in.	(mm)	3.88" (98.43)
Stroke	in.	(mm)	4.72" (120)

* Fan excluded

UNDERCARRIAGE



Heavy duty box-designed body with solid swing ring support. Front idler and rollers are lubricated for life.

Track chain size	D55		
No. of track shoes	pcs.	2 x 50	
Track width	in. (mm)	23.6" (600)	
alt.	in. (mm)	27.6", 35.4" (700, 900)	
No. of bottom rollers	pcs.	2 x 10	
No. of top rollers	pcs.	2 x 2	
alt. skidrails	pcs.	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 of optional equipment. Battery disconnecter standard.

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

CAB



Operator's cab with a supporting frame structure. Large windows for all round good visibility. The upper front window can be pushed up in the ceiling, and the lower one can be removed. Sliding side 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 headrest and individually adjustable armrests and hand controls.

Sound level: Approved according to 86/662/EEC.

Surroundings (ISO 6393)		
(32'10" distance from the machine)		
Average value L_{WA} (acoustic power)	dB(A) 108	
Inside the cab (ISO 6394)		
with the door closed		
L_{pA} (acoustic pressure)	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.

Max. tractive force	lbf.	(kN)	50,600	(225)
Max. travel speed	mph	(km/h)	3.2	(5.2)
Gradeability, continuously	°	(%)	100	(45)

SERVICE REFILL CAPACITIES



Fuel tank	gal	(l)	89.8	(340)
Fuel refilling pump capacity	gpm	(l/min)	23.8	(90)
Hydraulic system, total	gal	(l)	106	(400)
Diesel engine	gal	(l)	5.8	(22)
Cooling system (incl. glycol)	gal	(l)	8.5	(32)
Swing ring	gal	(l)	4.5	(17)

SWING SYSTEM



The superstructure is swung 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 ring. The entire swing ring runs in a dust protected oil bath.

Swing, start to stop*		
90° turn	s	6.2
180° turn	s	8.2
Swing speed	rpm	7.4

* Empty bucket and equipment extended

HYDRAULIC SYSTEM



Åkerman 3-circuit multilevel priority system all-servo controlled.

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

Mode selector: Three working modes:

HLD = Heavy Lift Device

ECO = Economy

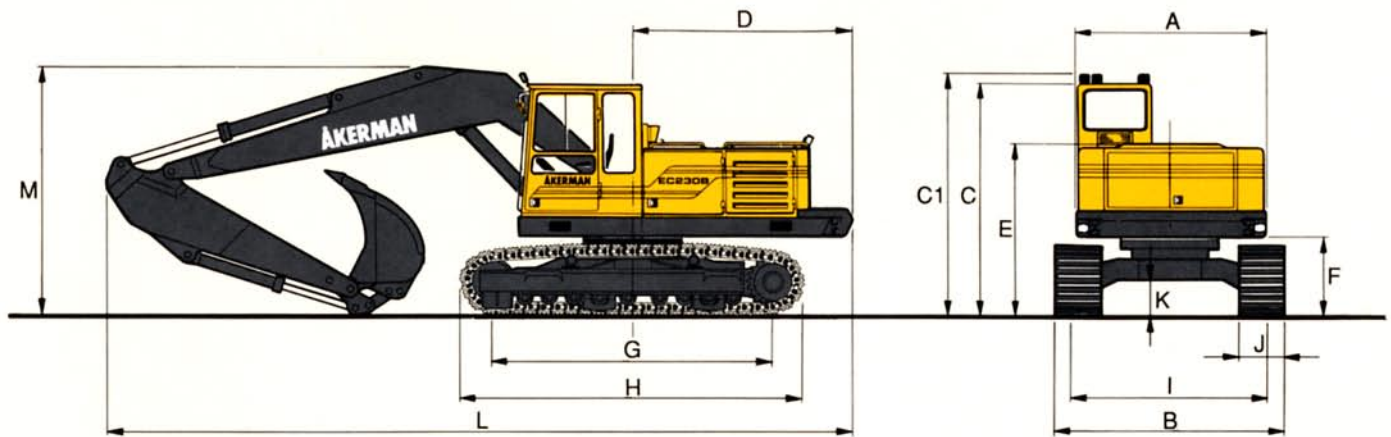
CAP = Capacity

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

Valve system: Boom, stick 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.

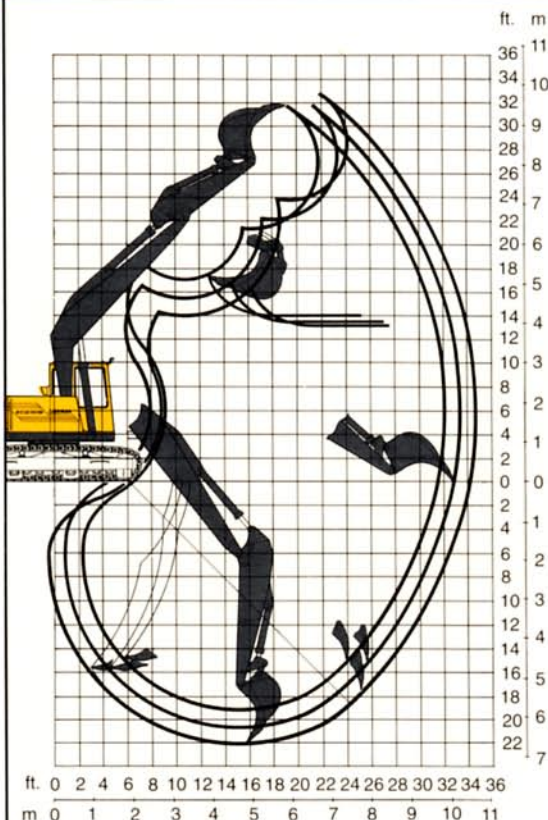
Pump P1					
Max. pressure	psi (MPa)	3770	(26)		
Max. flow	gpm (l/min)	23.2	(88)		
Pumps P2 and P3					
Max. pressure	psi (MPa)	4060	(28)		
Power boost	psi (MPa)	4640	(32)		
Max. flow	gpm (l/min)	2x37.5	(2x142)		
Servo pump					
Pressure	psi (MPa)	943	(6.5)		
Flow	gpm (l/min)	5.3	(20)		

DIMENSIONS



A:	ft in.	(mm)	8'2"	(2490)		
B:	ft in.	(mm)	9'10"	(3000)		
C:	ft in.	(mm)	9'11"	(3010)		
C1:	ft in.	(mm)	10'4"	(3150)		
D:	ft in.	(mm)	9'5"	(2870)		
E:	ft in.	(mm)	7'4"	(2240)		
F:	ft in.	(mm)	3'4"	(1020)		
G:	ft in.	(mm)	12'3"	(3730)		
H:	ft in.	(mm)	14'10"	(4530)		
I:	ft in.	(mm)	7'10"	(2390)		
J:	ft in.	(mm)	23.6"/27.6"/35.4"	(600/700/900)		
K:	ft in.	(mm)	18.5"	(470)		
L:	ft in.	(mm)	29'6"	(9000)		(7'5" stick)
L:	ft in.	(mm)	29'6"	(9000)		(9'2" stick)
L:	ft in.	(mm)	29'6"	(9000)		(10'10" stick)
M:	ft in.	(mm)	10'6"	(3200)		(7'5" stick)
M:	ft in.	(mm)	10'8"	(3250)		(9'2" stick)
M:	ft in.	(mm)	12'10"	(3900)		(10'10" stick)

WORKING RANGES



	boom 17'1"			boom 18'8"		
Stick	ft 7'5"	9'2"	10'10"	7'5"	9'2"	10'10"
Max reach	ft 30'10"	32'2"	33'6"	32'6"	33'10"	35'1"
Max. reach at ground level	ft 30'2"	31'6"	32'10"	32'2"	33'2"	34'9"
Max. digging depth	ft 18'4"	20'	21'4"	19'4"	20'8"	22'
Max. height, ground – tooth tip	ft 29'2"	29'2"	30'6"	31'6"	31'6"	32'10"
Max. dumping height	ft 19'8"	20'4"	21'4"	21'4"	22'	23'7"
Max. pract. dumping height	ft 12'6"	12'2"	10'6"	14'1"	13'5"	13'5"
Practical digging depth at a repose of material of 45°	ft 15'1"	16'1"	17'5"	16'9"	17'9"	18'8"
Max. vertical digging depth	ft 13'5"	13'9"	15'1"	15'1"	15'5"	17'9"
Min. swing radius in front	ft 13'5"	13'5"	13'9"	13'9"	13'9"	14'1"

DIGGING FORCE

Bucket digging force*	lbf. (kN)	39,790 (177)
Stick force*	lbf. (kN)	28,100 (125)

* HD-bucket, 1.18 cu.yd SAE, and 7'5" stick.

BUCKET AND STICK COMBINATIONS

BUCKETS	Volume SAE cu.yd.	Cutting width in.	Weight lbs	Fitting *	Suitable for boom 18'8" and stick			Suitable for boom 17'1" and stick		
					7'5"	9'2"	10'10"	7'5"	9'2"	10'10"
Heavy Duty	1.31	41"	1874	QF	•	•		•	•	•
	1.18	41"	1676	QF	•	•		•	•	•
	1.44	41"	2138	QF	•	•		•	•	•
	1.18	41"	1676	D	•	•	•	•	•	•
	1.37	41"	2116	D	•	•		•	•	•
	1.50	41"	2161	D	•	•		•	•	
General purpose	1.44	49"	1367	QF	•	•		•	•	•
	1.70	49"	1841	QF	•	•		•	•	•
	1.70	49"	1962	D	•	•		•	•	•
Articulated slope bucket	0.92	63"	1852	QF	•	•	•	•	•	•
	1.05	71"	1940	QF	•	•		•	•	•
Ditch cleaning	0.92	63"	1213	QF	•	•	•	•	•	•
	1.05	71"	1301	QF	•	•		•	•	•
Cable bucket	0.37	22"	849	QF	•	•	•	•	•	•

* D = Direct fitting
QF = Quickfit

WEIGHT AND GROUND PRESSURE



Standard machine, 18'8" boom, 10'10" stick,
1.50 cu.yd. bucket and 7720 lbs. counterweight.

Track shoes		Machine weight		Ground pressure	
23.6"	(600 mm)	51,400 lbs	(23,300 kg)	6.86 psi	(47.3 kPa)
27.6"	(700 mm)	51,400 lbs	(23,300 kg)	5.87 psi	(40.5 kPa)
35.4"	(900 mm)	52,900 lbs	(24,000 kg)	4.71 psi	(32.5 kPa)

STABILITY AND LIFTING CAPACITIES

In the bucket lifting hook. Unit: pounds.

	Lifting hook related to ground level	Reach from machine centerline										
		15'		20'		25'		30'		Max. reach		Max. ft.
		Across carriage	Along carriage	Across carriage	Along carriage	Across carriage	Along carriage	Across carriage	Along carriage	Across carriage	Along carriage	
18'8" boom 7'5" stick Quickfit 23.6" track shoes	20'			10,600 *	10,600 *	7,500	10,730 *			7,280	10,040 *	25.4
	15'	14,560 *	14,560 *	10,200	12,070 *	7,280	10,820 *			6,090	9,520 *	27.9
	10'	13,970	18,610 *	9,500	13,840 *	6,950	11,450 *			5,510	9,140	29.2
	5'			8,970	15,330	6,650	11,120			5,290	8,850	29.5
	0'	13,050	22,680 *	8,690	15,020	6,460	10,910			5,400	9,060	28.8
	-5'	13,190	21,570 *	8,640	14,960	6,450	10,920			5,900	9,910	27.0
-10'	13,350	18,760 *	8,800	14,070 *					7,080	10,660 *	23.9	
18'8" boom 9'2" stick Quickfit 23.6" track shoes	20'					7,560	9,370 *			6,490	8,100 *	27.2
	15'			10,320 *	10,930 *	7,290	9,940 *			5,510	7,960 *	29.5
	10'	14,280	17,140 *	9,580	12,820 *	6,920	10,920 *	5,210	8,690	5,010	8,130 *	30.7
	5'	13,170	21,100 *	8,940	14,670 *	6,570	11,060	5,040	8,500	4,800	8,110	31.0
	0'	12,860	22,460 *	8,560	14,900	6,320	10,780	4,940	8,380	4,850	8,240	30.4
	-5'	12,820	21,820 *	8,440	14,750	6,230	10,680			5,240	8,910	28.7
-10'	12,970	19,800 *	8,520	14,770 *	6,380	10,830			6,120	10,280 *	25.9	
-15'	13,330	15,050 *	8,920	10,760 *					8,650	10,270 *	20.5	
18'8" boom 10'10" stick Quickfit 23.6" track shoes	25'					7,680	8,880 *			7,320	8,970 *	25.6
	20'					7,640	8,430 *			5,760	8,330 *	29.1
	15'					7,360	9,160 *	5,370	8,850	4,950	7,840 *	31.3
	10'	14,680	15,270 *	9,750	11,930 *	6,970	10,250 *	5,200	8,680	4,540	7,670	32.4
	5'	13,360	19,430 *	9,040	13,910 *	6,580	11,100	4,990	8,460	4,350	7,430	32.7
	0'	12,800	22,130 *	8,570	14,940	6,290	10,760	4,840	8,290	4,400	7,550	32.1
-5'	12,680	22,030 *	8,360	14,710	6,140	10,600	4,810	8,250	4,690	8,050	30.6	
-10'	12,780	20,620 *	8,380	14,720	6,170	10,640			5,400	9,230	27.9	
-15'	13,100	17,000 *	8,640	12,510 *					6,980	9,190 *	23.7	
17'1" boom 7'5" stick Quickfit 23.6" track shoes	20'			10,810 *	10,810 *					8,410	9,210 *	23.4
	15'			10,430	12,030 *	7,400	11,370 *			6,890	8,910 *	26.1
	10'	14,600	18,020 *	9,810	13,930 *	7,130	11,670			6,180	8,810 *	27.5
	5'	13,690	21,960 *	9,280	15,560 *	6,860	11,350			5,930	9,140 *	27.8
	0'	13,470	23,200 *	8,980	15,310	6,690	11,160			6,060	9,140 *	27.1
	-5'	13,450	22,280 *	8,920	15,240	6,740	11,220			6,680	10,220 *	25.2
-10'	13,640	19,160 *	9,180	13,960 *					8,260	11,790 *	21.8	

* Limited by hydraulic lifting capacity. The above loads are in compliance with SAE hydraulic excavator lift capacity ratings standard J1097, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.
Working pressure with HLD = 4640 psi (32 MPa)

STANDARD EQUIPMENT

Engine and electrical system	Safety and Comfort	Hydraulics	Equipment
<p>Computer controlled monitoring system</p> <p>Battery disconnecter and main fuel tap</p> <p>Air filter with indicator</p> <p>Hour meter</p> <p>Electric preheating element</p> <p>Rpm gauge</p> <p>Fuel gauge</p> <p>Temperature gauge for cooling fluid and hydraulic oil</p> <p>24 volt electrical system with 4 standard batteries</p> <p>Undercarriage</p> <p>Swing ring in oil bath</p> <p>Skid rails</p> <p>Tripple grousers</p> <p>23.6" track shoes with mud holes</p> <p>Hydraulic track adjuster</p> <p>Derailing shields, 3 pcs</p>	<p>Cab heating with 14 outlets</p> <p>Filtered air intake</p> <p>Cab inner lighting</p> <p>Openable side window</p> <p>Emergency exit through rear window</p> <p>Ergonomically designed and adjustable operator's seat</p> <p>Rear view mirrors, 2 exterior, 1 interior</p> <p>Lights:</p> <p>5 working lights, front, halogen</p> <p>1 working light, rear, halogen</p> <p>Illuminated cab, engine compartment and fuel filling compartment</p> <p>Safety bar for control levers</p> <p>Double intermittent windshield wipers</p> <p>Hydraulic refuelling pump, 23.8 gpm</p> <p>Air horn</p> <p>Hose rupture valve on boom cylinder</p>	<p>Three variable axial piston working pumps</p> <p>Mode selector, 3 steps</p> <p>Power boost</p> <p>Standard filter cartridges for return, leak oil and respiration filter systems</p> <p>Dual main valve for the travel and equipment functions</p> <p>Float position on boom</p> <p>Refilling pump for hydraulic oil</p> <p>Automatic idling speed (Fuel-miser)</p> <p>Swing-out oil cooler</p>	<p>18'8" monobloc boom</p> <p>Stick 10'10"</p> <p>End dampening on all cylinders</p> <p>Spherical link bearings in all connections</p> <p>Security lifting hook</p> <p>Friction welded piston rod eyes</p>

OPTIONAL EQUIPMENT

Engine and Electrical System	Safety and Comfort	Hydraulics	Equipment
<p>Electric over speed protector</p> <p>Rear lights</p> <p>Cranked exhaust pipe</p> <p>Digital timer</p> <p>Combined cab/engine heater Primus 2460</p> <p>Engine heater Primus 2400/2440</p> <p>Immersion heater, 220 V</p> <p>Precyclone with exhaust ejector</p> <p>Undercarriage</p> <p>Short undercarriage length: 13'7"</p> <p>27.6" and 35.4" track shoes</p> <p>Asymmetrical track shoes</p> <p>Top rollers, 2 pcs</p>	<p>Tinted windows</p> <p>Interior and exterior glare shields</p> <p>Protective grid for front window/roof window (FOPS)</p> <p>Fire extinguisher</p> <p>Operator's seat with air cushion suspension</p> <p>Seat belts</p> <p>Rotating beacon</p> <p>Sun visor</p> <p>Sun shield</p> <p>Rear window jalousie</p> <p>Air conditioning</p> <p>Fine- and micro filter for the cab</p> <p>Extra hose rupture valve on stick/bucket cylinders</p> <p>Tropical cab roof</p> <p>Vandal guards</p> <p>Extra circulation pump for the heating system</p> <p>Radio cassette</p> <p>Windshield washers</p>	<p>Hydraulic equipment for:</p> <p>articulated bucket</p> <p>grapple</p> <p>hydraulic hammer</p> <p>jib</p> <p>crusher</p> <p>shears</p> <p>magnet</p> <p>Installation of a 4th working pump</p> <p>Biologically degradable oil</p>	<p>17'1" monobloc boom</p> <p>19'4" 2-piece boom</p> <p>Stick 7'5" and 9'2"</p> <p>Extra headlights on the boom</p> <p>Automatic grease system</p> <p>Hydraulic quickfit</p> <p>Mechanical quickfit</p> <p>Various buckets</p>

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.

VME North America
 ONE WEST PACK SQUARE, BB&T BUILDING
 ASHEVILLE, N.C. 28801
 (704) 257-2500

VME Excavators AB
 Box 115, S-241 22 ESLÖV SWEDEN

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