Åkerman EC200

Monobloc- / 2-piece boom

- ***Engine Power:***
  107 kW (145 hp)
- ***Operating Weight:***
  18,1 - 20,1 t
- ***Buckets:***
  725 - 1 100 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 newly developed pump regulation PSC. (Pressure Sensing Control)*
- *Comfort cab*
  – computerized control and warning system
  – ergonomic environment
  – low sound level
  – filtered air
- *Highest flexibility for extra equipment/hydraulics*
- *Long undercarriage for high stability*
- *High crawler speed – 5,2 km/h*

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	r/s	(r/min)	30	(1800)
ISO 3046 / DIN 6271*	kW	(hp)	107	(145)
No. of cylinders			6	
Displacement, total	l		5,48	
Bore	mm		98,43	
Stroke	mm		120	

* Fan excluded

ELECTRIC SYSTEM

Micro processor for monitoring of engine/ hydraulic system. High capacity and well protected electric system. Most relays and fuses are centralized in the cab.
Battery disconnector.

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

DRIVE TRAIN

Each track is powered by a two-step 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		196	
Max. travel speed	km/h		5,2	
Gradeability, continuously	°	(%)	55	(143)

SERVICE REFILL CAPACITIES

Fuel tank	l	290
Fuel pump capacity	l/min	90
Hydraulic system, total	l	320
Diesel engine	l	22
Cooling system (incl. glycol)	l	32
Travel gearbox	l	2 x 3,4
Slew gearbox	l	16,5

UNDERCARRIAGE

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

Track chain size		B4B
No. of track shoes		2 x 52
Track width	mm	600
alt.	mm	750, 900
No. of bottom rollers		2 x 9
Skid rail		2 x 1

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.

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

Surroundings (ISO 6393)		
Average value L_{WA} (acoustic power)	dB(A)	104
Inside the cab (ISO 6394)		
with the door closed		
L_{pA} (acoustic pressure)	dB(A)	73

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.

Slew, start to stop*		
90° turn	s	5,0
180° turn	s	7,0

** Empty bucket and extended equipment.*

HYDRAULIC SYSTEM

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

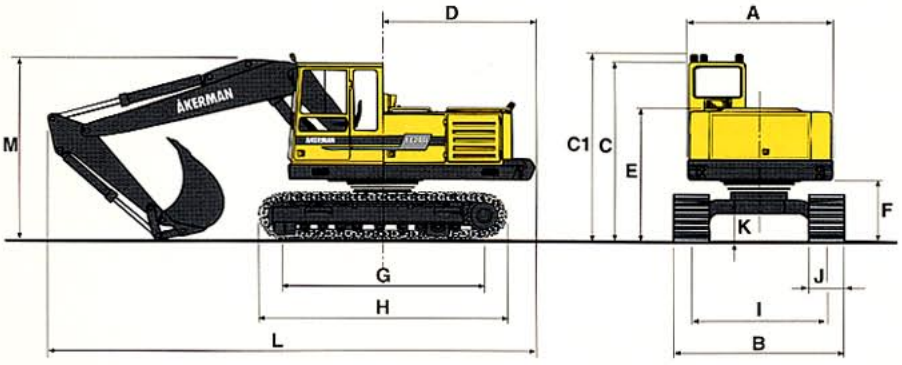
Pumps: P1 is a pressure controlled variable pump with priority to slew circuit. P2 and P3 are power and pressure controlled variable pumps with opposite cross flow priority to boom, arm and bucket.

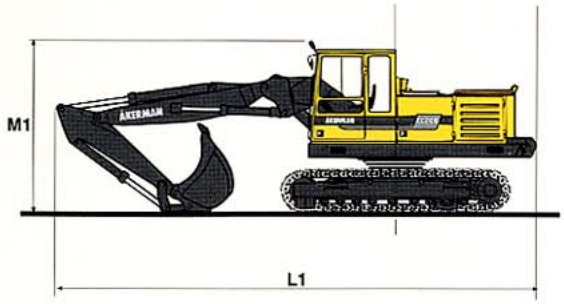
Mode selector: Three working modes:
HLD = Heavy Lift Device
ECO = Economy
CAP = Capacity
Powerboost temporarily selectable in 10 sec. even in Economy and Capacity mode.

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	28
Max. flow	l/min	64
Pumps P2 and P3		
Max. pressure	MPa	26
Power boost	MPa	30
Max. flow	l/min	2 x 114
Servo pump		
Pressure	MPa	6,5
Flow	l/min	17

DIMENSIONS

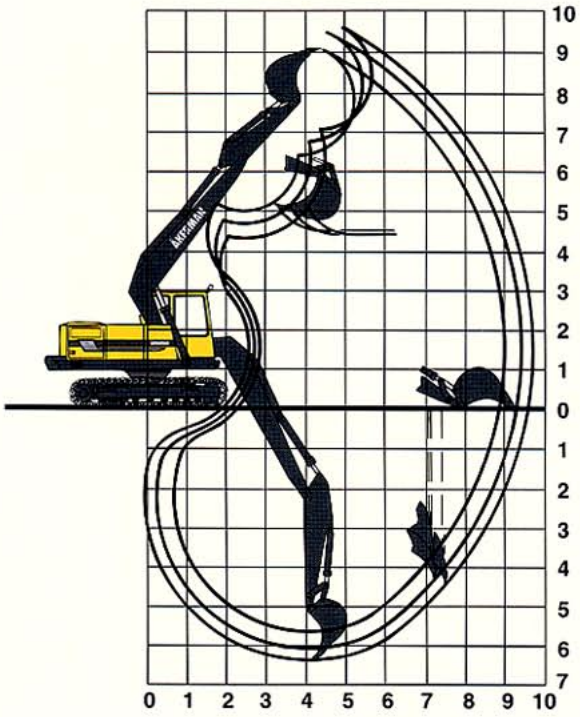




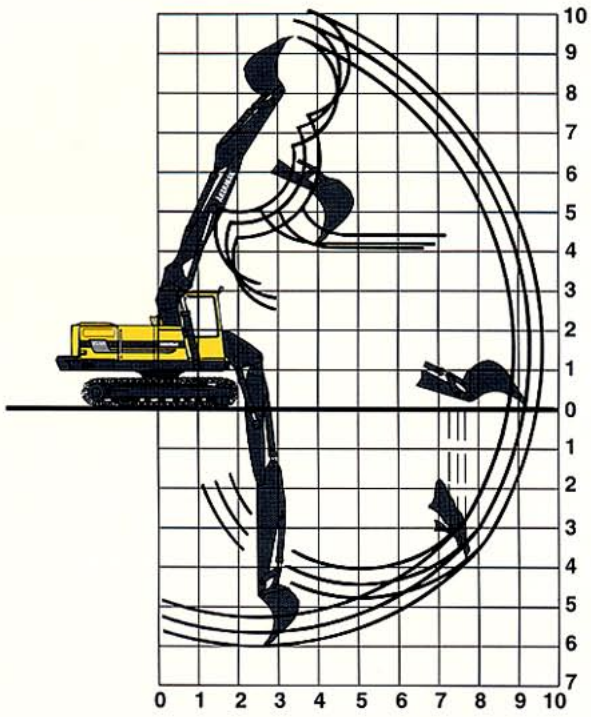
A:	mm	2490	G:	mm	3460	L1:	mm	8810	*(2,0 m arm)*
B:	mm	2900/3050/3200	H:	mm	4240	L1:	mm	8750	*(2,4 m arm)*
C:	mm	2990	I:	mm	2300	L1:	mm	8660	*(2,8 m arm)*
C1:	mm	3130	J:	mm	600/750/900	M:	mm	3100	*(2,0 m arm)*
D:	mm	2600	K:	mm	470	M:	mm	3200	*(2,4 m arm)*
E:	mm	2200	L:	mm	8900 *(2,0 and 2,4 m arm)*	M:	mm	3300	*(2,8 m arm)*
F:	mm	1010	L:	mm	8800 *(2,8 m arm)*	M1:	mm	3130	*(2,0, 2,4 and 2,8 m arm)*

WORKING RANGES

5,2 m Monobloc boom



5,1 m 2-piece boom



		5,2 m Monobloc boom			5,1 m 2-piece boom		
Arm	**m**	**2,0**	**2,4**	**2,8**	**2,0**	**2,4**	**2,8**
Max. reach	m	9,1	9,4	9,7	8,9	9,3	9,6
Max. reach at ground level	m	8,9	9,2	9,5	8,8	9,2	9,5
Max. digging depth	m	5,8	6,1	6,4	5,3	5,7	6,0
Max. height, ground – tooth tip	m	9,2	9,5	9,6	9,5	9,9	10,1
Max. dumping height	m	6,3	6,7	7,1	6,7	7,1	7,5
Max. practical dumping height	m	4,4	4,4	4,4	4,2	4,1	4,0
Practical digging depth for a material with a 45° angle of repose	m	4,6	4,9	5,1	4,3	4,6	4,8
	m	4,0	4,4	4,5	3,6	4,1	4,3
Max. vertical digging depth	m	3,3	3,5	3,5	3,2	3,5	3,5
Min. slewing radius in front							

DIGGING FORCE

Bucket digging force*	kN	126
Dipper arm force*	kN	94

** HD-bucket 725 l SAE and 2,0 m dipper arm.*

BUCKET AND ARM COMBINATIONS

BUCKETS for quickfit	Volume SAE l	Cutting width mm	Weight kg	Suitable for **Counterweight 2 200 kg** Monobloc boom **5,2 m** and arm			Suitable for **Counterweight 2 200 kg** 2-piece boom **5,1 m** and arm			Suitable for **Counterweight 2 600 kg** Monobloc boom **5,2 m** and arm			Suitable for **Counterweight 2 600 kg** 2-piece boom **5,1 m** and arm		
				2,0 m	2,4 m	2,8 m	2,0 m	2,4 m	2,8 m	2,0 m	2,4 m	2,8 m	2,0 m	2,4 m	2,8 m
Heavy Duty 1,8 t/m³	725	960	600	•	•	•	•	•	•	•	•	•	•	•	•
	825	990	620	•	•	•	•	•		•	•	•	•	•	•
	950	1100	620	•			•			•	•		•	•	
Light material 1,5 t/m³	900	1125	585	•	•	•	•	•	•	•	•	•	•	•	•
	1100	1250	620	•	•		•			•	•		•	•	
Articulated slope bucket	800	1800	880	•	•	•	•	•		•	•	•	•	•	•
Fixed slope bucket	800	1800	590	•	•	•	•	•	•	•	•	•	•	•	•
Cable bucket	280	550	385	•	•	•	•	•	•	•	•	•	•	•	•

WEIGHT AND GROUND PRESSURE

Machine with 5,2 m monobloc boom, 2,4 m dipper arm, quickfit, 950 l bucket and 2 600 kg counterweight.

Machine with 5,1 m 2-piece boom, 2,4 m dipper arm, quickfit, 950 l bucket and 2 600 kg counterweight.

Track shoes	Operating weight		Ground pressure	
600 mm	18 500 kg	18 850 kg (2-piece boom)	40,5 kPa	41,2 kPa (2-piece boom)
750 mm	19 300 kg	19 650 kg (2-piece boom)	33,8 kPa	34,4 kPa (2-piece boom)
900 mm	19 800 kg	20 150 kg (2-piece boom)	28,9 kPa	29,4 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										
		3,0 m		4,5 m		6,0 m		7,5 m		Max. reach		
												Max. m
Monobloc boom – 4,65 m 2,4 m arm Quickfit 600 mm track shoes Counterweight 2 600 kg	6,0 m					3,6 *	3,6 *			2,8 *	2,8 *	6,6
	4,5 m			4,2 *	4,2 *	3,7	3,8 *	2,6	2,6 *	2,6	2,6 *	7,5
	3,0 m			5,4	5,5 *	3,6	4,4 *	2,6	3,9 *	2,2 *	2,2 *	8,0
	1,5 m			5,1	6,8 *	3,4	5,0 *	2,5	3,9	2,2	2,5 *	8,1
	0,0 m			4,9	7,3 *	3,3	5,3 *	2,4	3,8	2,3	2,5 *	7,9
	-1,5 m	9,3	10,1 *	4,9	7,0 *	3,2	5,1 *			2,5	3,2 *	7,3
	-3,0 m	8,4 *	8,4 *	4,9	5,8 *	3,3	4,0 *			3,1	3,2 *	6,3
Monobloc boom – 5,2 m 2,4 m arm Quickfit 600 mm track shoes Counterweight 2 600 kg	6,0 m					3,2 *	3,2 *			2,7	2,8 *	7,3
	4,5 m			4,1 *	4,1 *	3,6 *	3,6 *	2,6	3,3 *	2,3	2,7 *	8,1
	3,0 m			5,2	5,5 *	3,5	4,2 *	2,5	3,6 *	2,1	2,9 *	8,5
	1,5 m			4,8	6,7 *	3,3	4,7 *	2,4	3,8	2,0	3,2 *	8,6
	0,0 m			4,7	7,2 *	3,2	5,1 *	2,3	3,8	2,0	3,2	8,4
	-1,5 m	6,3 *	6,3 *	4,7	6,9 *	3,1	5,1 *	2,3	3,7	2,2	3,5 *	7,9
	-3,0 m	8,6 *	8,6 *	4,8	6,1 *	3,2	4,4 *			2,6	3,4 *	7,0
2-piece boom – 5,1 m 2,4 m arm Quickfit 600 mm track shoes Counterweight 2 600 kg	6,0 m					3,8	4,1 *			2,7	3,4 *	7,2
	4,5 m			5,0 *	5,0 *	3,6	4,4 *	2,5	3,8 *	2,3	3,3 *	8,0
	3,0 m			5,1	6,3 *	3,4	4,8 *	2,4	3,9	2,0	2,6 *	8,5
	1,5 m			4,7	7,0 *	3,2	5,0 *	2,3	3,8	1,9	2,8 *	8,6
	0,0 m			4,6	6,9 *	3,1	5,0 *	2,3	3,7	2,0	2,9 *	8,4
	-1,5 m	5,6 *	5,6 *	4,6	6,0 *	3,1	4,4 *	2,3	3,2 *	2,2	2,8 *	7,8

* *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, level ground.

Working pressure with HLD = 30 MPa (300 bar)

STANDARD EQUIPMENT

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

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

Superstructure
Counterweight 2600 kg

Safety and Comfort
Safety bar for control levers
Hose rupture valve on boom cylinder
Hydraulic refuelling pump, 90 l/min
Over load indicator
Lights (halogen):
5 working lights, front
1 working light, rear
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
2,4 m dipper arm
Hydraulic quickfit
End dampening on all cylinders
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
750/900 mm track shoes
Top rollers

Superstructure
Counterweight
1750 kg
2200 kg

Safety and Comfort
Protective grid for front pane/roof pane
Fire extinguisher
Seat belts
Rotating beacon
Protection against overfilling fuel
Extra circulation pump for the heating system
Extra hose rupture valves
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
2-piece boom
Installation of a 4th working pump

Equipment
5,1 m 2-piece boom
4,65 m monobloc boom
2,0 m and 2,8 m dipper arm
Extra headlights on the boom

Volvo Construction Equipment

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