



Åkerman EC300



- **Engine Power:**
154 kW (209 hp)
- **Operating Weight:**
31,0 – 32,0 t
- **Buckets:**
900 – 1 700 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
- Heavy duty equipment with spherical bearings
- Digging and breakout forces for tough conditions
- Slew ring in oil bath
- Highest flexibility for extra equipment/hydraulics
- Long undercarriage for high stability

ÅKERMAN

ENGINE



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

Make		Volvo	
Model		TD 71 GE	
Net output at ISO 3046 / DIN 6271*	r/s (r/min)	33,3 (2 000)	
	kW (hp)	154 (209)	
No. of cylinders		6	
Displacement, total	l	6,73	
Bore	mm	104,77	
Stroke	mm	130	

* Fan excluded

UNDERCARRIAGE



Heavy duty box-designed body with solid slew ring support.

Track chain size		B6
No. of track shoes		2 x 53
Track width	mm	650
alt.	mm	750, 880
No. of bottom rollers		10
No. of top rollers		2

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	28/45
Battery	V	4 x 12
Battery capacity	Ah	120
Alternator rating	W	1 260

CAB



Tested cab structure according to FOPS ISO 3471. Large panes for all round for good visibility. The upper front pane 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 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)	108
Inside the cab (ISO 6394)		
with the door closed		
L_{pA} (acoustic pressure)	dB(A)	75

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	kN	297
Max. travel speed	km/h	2,8
Gradeability, continuously	° (%)	46 (102)

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	4,8
180° turn	s	7,1

* Empty bucket and equipment extended

SERVICE REFILL CAPACITIES



Fuel tank	l	340
Fuel pump capacity	l/min	90
Hydraulic system, total	l	430
Diesel engine	l	25
Cooling system (incl. glycol)	l	31
Slew ring	l	20

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, bucket and arm.

Mode selector: Three working modes:

HLD = Heavy Lift Device

ECO = Economy

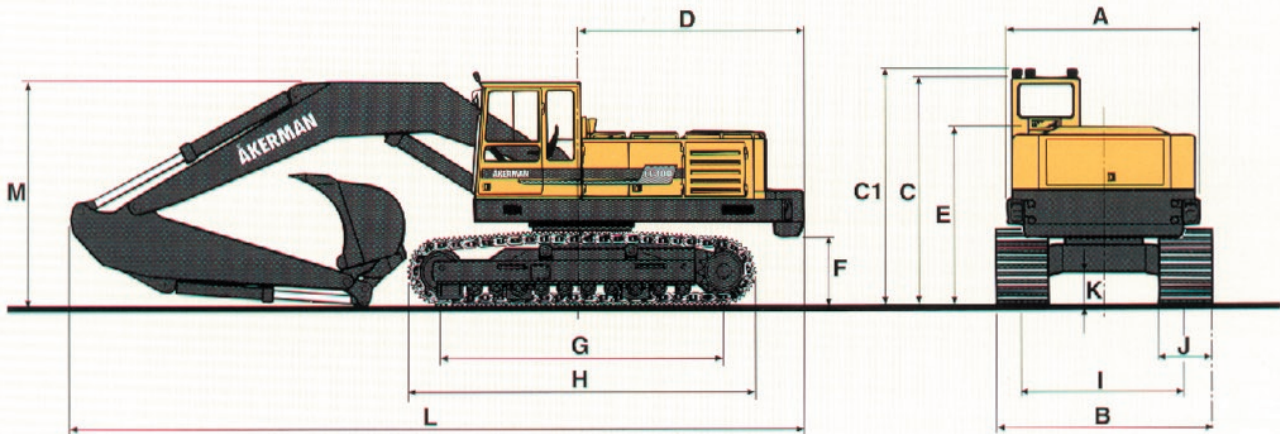
CAP = Capacity

Powerboost temporarily selectable 10 sec. even in Economy and Capacity mode. Electronically controlled pump regulation for highest power output.

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 movement equipped with floating position to increase the digging speed. Security hose rupture valve on the boom cylinder.

Pump P1			
Max. pressure	MPa		26
Max. flow	l/min		110
Pumps P2 and P3			
Max. pressure	MPa		26
Power boost	MPa		30
Max. flow	l/min		2 x 170
Servo pump			
Pressure	MPa		6,5
Flow	l/min		20

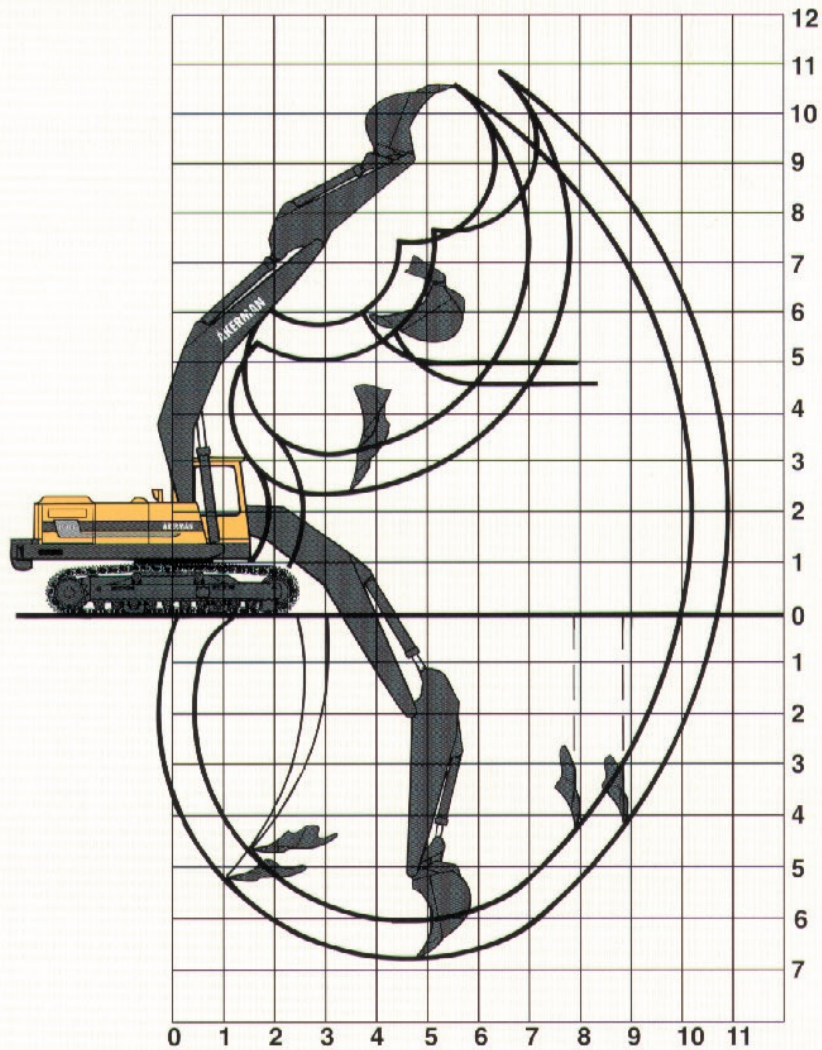
DIMENSIONS



A:	mm	2 750
B:	mm	3 100/3 200/3 330
C:	mm	3 170
C1:	mm	3 310
D:	mm	3 160
E:	mm	2 360
F:	mm	974
G:	mm	4 210

H:	mm	5 130
I:	mm	2 450
J:	mm	650/750/880
K:	mm	420
L:	mm	10 300 (2,5 m arm)
L:	mm	10 300 (3,2 m arm)
M:	mm	3 310 (2,5 m arm)
M:	mm	3 310 (3,2 m arm)

WORKING RANGES



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

BUCKET AND ARM COMBINATIONS

BUCKETS	Volume SAE l	Cutting width mm	Weight kg	Fitting *	Suitable for arm	
					2,50 m	3,20 m
Heavy Duty 1,8 t/m ³	1500	1200	1275	D	•	
	1450	1205	1250	QF	•	
General Purpose 1,5 t/m ³	1700	1450	1380	D	•	
	1700	1450	1285	QF	•	
Articulated slope bucket	1000	2000	1090	QF	•	•

DIGGING FORCE

Bucket digging force*	kN	195
Dipper arm force*	kN	156

* HD-bucket, 1 250 l SAE, and 2 500 mm dipper arm.

* Std. = Direct fitting
QF = Quickfit

WEIGHT AND GROUND PRESSURE



Standard machine, 2,50 m dipper arm, 1 700 l bucket and counterweight 5 000 kg.

Track shoes	Machine weight	Ground pressure
650 mm	31 000 kg	51,4 kPa
750 mm	31 400 kg	45,1 kPa
880 mm	32 000 kg	39,2 kPa

STABILITY AND LIFTING CAPACITIES

In the quickfit lifting hook. Unit: 1 000 kg.

		Reach from machine centre																				
		4,5 m		6,0 m		7,5 m		9,0 m		Max. reach		Max. m										
5,87 m boom 2,5 m arm 650 mm track shoes Quickfit	Lifting hook related to ground level																					
	6,0 m			10,2	6,32	17,8	6,32	7,21	6,25	12,3	6,25			5,86	4,98	10,0	4,98	8,5				
	4,5 m	14,4	9,35	27,5	9,35	9,57	7,71	16,9	7,71	6,92	6,91	11,9	6,91	5,22	6,46	9,01	6,46	5,12	5,20	8,85	5,20	9,1
	3,0 m	13,1	12,9	25,9	12,9	8,91	9,21	16,1	9,21	6,58	7,79	11,5	7,79	5,06	7,03	8,81	7,03	4,74	5,36	8,26	5,36	9,4
	1,5 m	12,5	15,4	25,2	15,4	8,44	10,8	15,6	10,8	6,29	8,53	11,2	8,53	4,91	7,37	8,63	7,37	4,63	5,99	8,13	5,99	9,4
	0,0 m	12,5	16,3	25,5	16,3	8,23	11,6	15,3	11,6	6,11	9,06	11,0	9,06	4,83	7,57	8,54	7,57	4,71	5,43	8,30	5,43	9,2
	-1,5 m	12,5	15,9	25,4	15,9	8,18	11,7	15,3	11,7	6,07	9,16	10,9	9,16			5,14	6,89	9,10	6,89			8,6
-3,0 m	12,6	14,6	25,4	14,6	8,29	10,9	15,4	10,9	6,26	8,36	11,2	8,36			6,05	7,04	10,8	7,04			7,7	
5,87 m boom 3,2 m arm 650 mm track shoes Quickfit	7,5 m							7,47	5,10	12,7	5,10			6,36	4,35	10,9	4,35			8,2		
	6,0 m							7,29	5,36	12,4	5,36	5,35	5,08	9,18	5,08	5,13	3,56	8,84	3,56			9,2
	4,5 m			9,77	6,65	17,2	6,65	6,97	6,12	12,0	6,12	5,21	5,90	9,01	5,90	4,58	4,18	7,98	4,18			9,7
	3,0 m	13,4	11,5	26,3	11,5	9,03	8,22	16,3	8,22	6,58	7,05	11,5	7,05	5,01	6,41	8,76	6,41	4,23	4,11	7,46	4,11	10,0
	1,5 m	12,4	14,8	25,3	14,8	8,44	9,90	15,6	9,90	6,24	7,92	11,1	7,92	4,82	6,93	8,54	6,93	4,13	4,55	7,33	4,55	10,0
	0,0 m	12,2	15,9	25,0	15,9	8,09	11,1	15,2	11,1	5,99	8,62	10,9	8,62	4,68	7,30	8,38	7,30	4,17	4,50	7,46	4,50	9,8
	-1,5 m	12,1	15,9	24,9	15,9	7,97	11,5	15,0	11,5	5,89	8,99	10,7	8,99	4,64	7,35	8,34	7,35	4,46	4,81	8,00	4,81	9,3
-3,0 m	12,2	15,2	24,9	15,2	8,01	11,2	15,1	11,2	5,93	8,75	10,8	8,75			5,16	6,30	9,26	6,30			8,4	
-4,5 m	12,5	13,1	25,2	13,1	8,26	9,74	15,4	9,74							6,66	7,37	12,0	7,37			7,1	

Tipping load*

Hydr. lifting capacities**

* Regardless of the hydraulic lifting capacity of the machine.
 ** Regardless of the stability of the machine.

Working pressure with HLD = 30 MPa (300 bar)

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 starter element</p> <p>Revs counter</p> <p>Fuel meter</p> <p>Temperature meter for cooling fluid and hydraulic oil</p> <p>24 volt electrical system with 4 standard batteries</p> <p>Cranked exhaust pipe</p> <p>Undercarriage</p> <p>Slew ring in oil bath</p> <p>Top rollers, 2 pcs</p> <p>Tripple grousers</p> <p>650 mm 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>Ergonomically designed and adjustable operator's seat, with heating coils</p> <p>Cab skylight</p> <p>Openable side pane</p> <p>Emergency exit through rear window</p> <p>Tinted windows (clear front)</p> <p>Internal sunvisor</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>Instrument lighting</p> <p>Illuminated cab, engine compartment and fuel filling compartment</p> <p>Safety bar for control levers</p> <p>Double intermittent windscreen wipers</p> <p>Windscreen washers</p> <p>Extra hose rupture valve on boom cylinder</p> <p>Hydraulic refuelling pump, 90 l/min</p> <p>Compressor horn</p> <p>Over load indicator</p> <p>Radio console</p>	<p>Three variable axial piston working pumps</p> <p>Mode selector, 3 steps</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>Automatic idling speed (Fuel-miser)</p> <p>Power boost</p> <p>Swing-out oil cooler</p> <p>Hydraulic equipment for quickfit</p>	<p>5,87 m monobloc boom</p> <p>2,5 m dipper arm</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 *(Standard on certain markets)*

Engine and Electrical System	Safety and Comfort	Hydraulics	Equipment
<p>Electric over speed protector</p> <p>Rear lights</p> <p>Volvo diesel driven engine and cab heater with digital timer</p> <p>Immersion heater, 220 v</p> <p>Precyclone with exhaust ejector</p> <p>Undercarriage</p> <p>750 mm and 880 mm track shoes</p> <p>Tool box</p> <p>Skid rails</p>	<p>Exterior glare shields</p> <p>Protective grid for front pane/roof pane</p> <p>Fire extinguisher</p> <p>Seat belts</p> <p>Rotating beacon</p> <p>Rear window jalousie</p> <p>Air conditioning</p> <p>Extra hose rupture valve on dipper arm/bucket cylinders</p> <p>Micro filter for the cab</p> <p>Extra circulation pump for the heating system</p> <p>Radio cassette player</p> <p>Protection against overfilling fuel</p>	<p>Biologically degradable oil</p> <p>Hydraulic equipment for:</p> <p>slope bucket</p> <p>grab</p> <p>hydraulic hammer</p> <p>jib</p> <p>crusher</p> <p>shears</p> <p>Installation of a 4th working pump</p>	<p>3,2 m dipper arm</p> <p>Extra headlights on the boom</p> <p>Hydraulic quickfit</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.

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