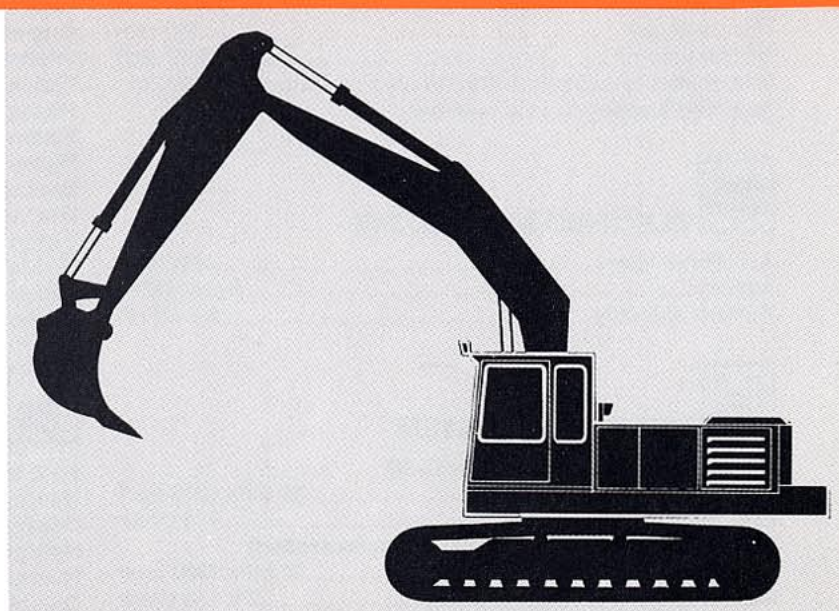
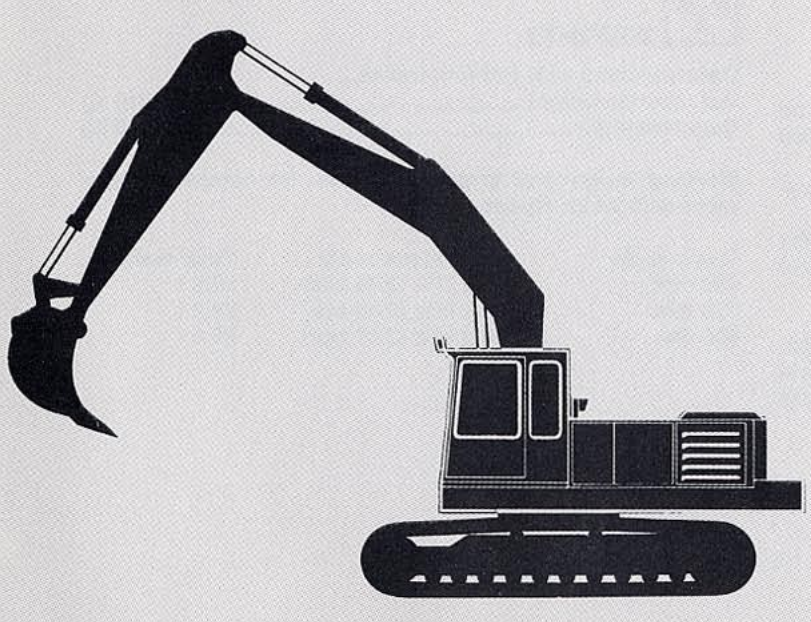
ÅKERMAN H14 B LC

English 13





BASE MACHINE

DIESEL ENGINE

VOLVO TD71ACE
The TD71ACE is a turbocharged 6-cylinder, 4-stroke diesel engine with water cooling and direct injection.
Output at 2000 rpm .....154 kW (209 hp)
(According to ISO 3046 and DIN 6271)
Cylinder diameter.....104.77 mm
Piston stroke .....130 mm
Stroke volume.....6.73 dm^3
The engine is equipped with an electric starter element to facilitate starting in cold weather.

ELECTRIC SYSTEM, 24V

A.C.Generator 28V/45A
Battery.....4 pcs. (12V)
Battery capacity .....2 x 60 Ah

HYDRAULIC SYSTEM

Pump 1 (slew, pressure controlled)
Max. pressure .....26 MPa (260 bar)
Max. flow.....110 l/min
Pumps 2 and 3 (power and pressure controlled)
Max. pressure .....26 MPa (260 bar)
Max. flow .....2 x 170 l/min
Pumps 2 and 3 with HLD (heavy lift device)
Max. pressure .....30 MPa (300 bar)
Servo pump
Pressure .....6.5 MPa (65 bar)
Flow .....about 20 l/min

SLEWING SYSTEM

The superstructure is slewed by an axial piston motor. Cab lock, slew gearbox and slew drive shaft are geared between the slew motor and the inner tooth race of the slew ring.
Slewing speed .....6.0 rpm
90° turn from start to stop .....4.8 s
180° turn from start to stop .....7.1 s
(Bucket empty - equipment extended)

UNDERCARRIAGE

Travel
Each track is powered by a hydraulic motor of axial piston type. The track brake and a three step gearbox are situated between the drive wheel and motor.
The track brakes are of multiple-plate type and are activated by spring power and hydraulically released.
Max. tractive effort.....292 kN (29.8 Mp)
Track speed, high speed/low speed .....2.4 /1.8 km/h
Tracks
Track chain B6 - specially reinforced for excavator use.
Number of track plates each side .....53 pcs.
Track width .....650 (750 and 880) mm
Rollers each side.....10 bottom rollers and 2 top rollers

CYLINDER DATA

Boom cylinder
Internal diameter .....200 mm
Piston rod diameter .....125 mm
Piston stroke .....1500 mm
Piston force, out.....817 kN (83.3 Mp)
Piston force, out with HLD .....942 kN (96.1 Mp)
Dipper arm cylinder
Internal diameter .....180 mm
Piston rod diameter .....125 mm
Piston stroke .....1400 mm
Piston force, out.....662 kN (67.4 Mp)
Piston force, out with HLD .....763 kN (77.8 Mp)
Bucket cylinder
Internal diameter .....140 mm
Piston rod diameter .....90 mm
Piston stroke .....1100 mm
Piston force, out.....400 kN (40.8 Mp)
Piston force, out with HLD .....462 kN (47.1 Mp)

VOLUMES

Fuel tank.....340 l
Hydraulically driven fuel pump, capacity.....90 l/min
Cooling system (incl. glycol).....31 l
Hydraulic system, total .....430 l
Hydraulic oil tank .....260 l
Diesel engine (lubricating oil).....25 l
Pump gearbox.....2.8 l
Slew gearbox .....26 l
Slew ring .....20 l
Travel gearbox .....2 x 23 l

SOUND LEVEL

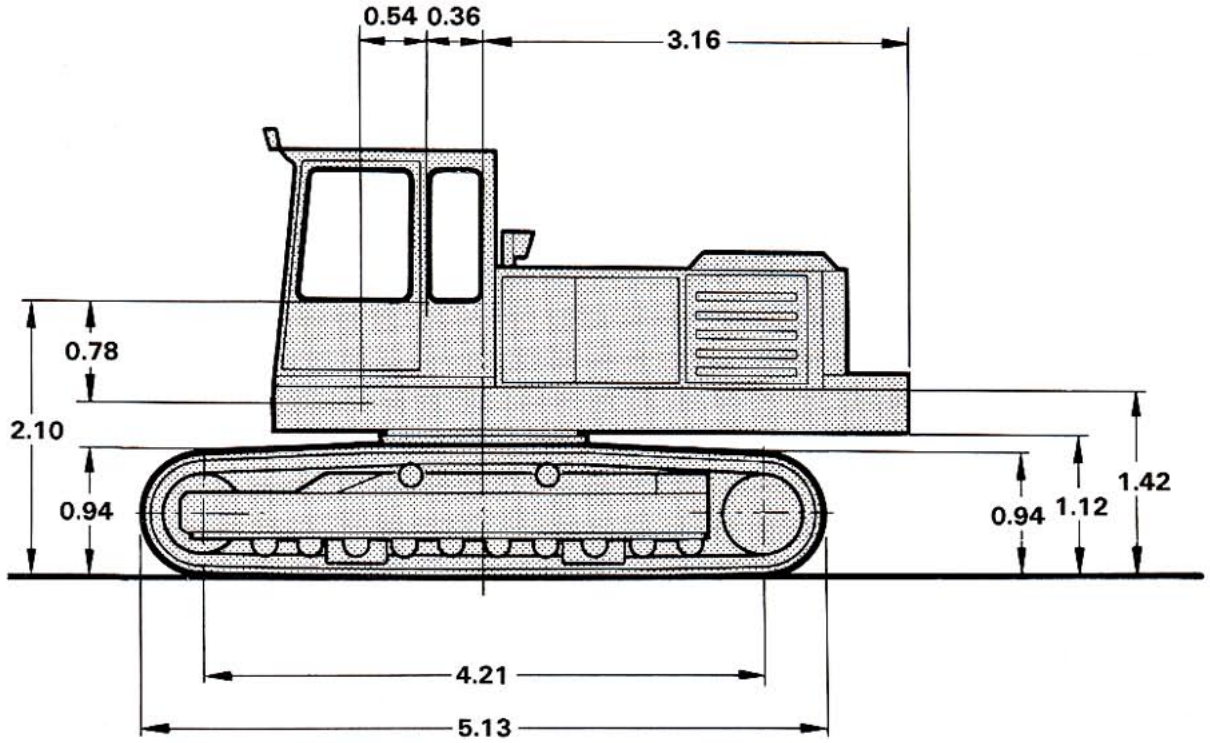
Surroundings (10 metres distance from the machine)
Average value L_{pA} (acoustic pressure).....78 dB(A)
Average value L_{wA} (acoustic power).....106 dB(A)
(According to ISO 6393)
Inside the cab with the door closed
L_{pA} (acoustic pressure) .....75 dB(A)
(According to ISO 6394)
Approved according to 86/662/EEC

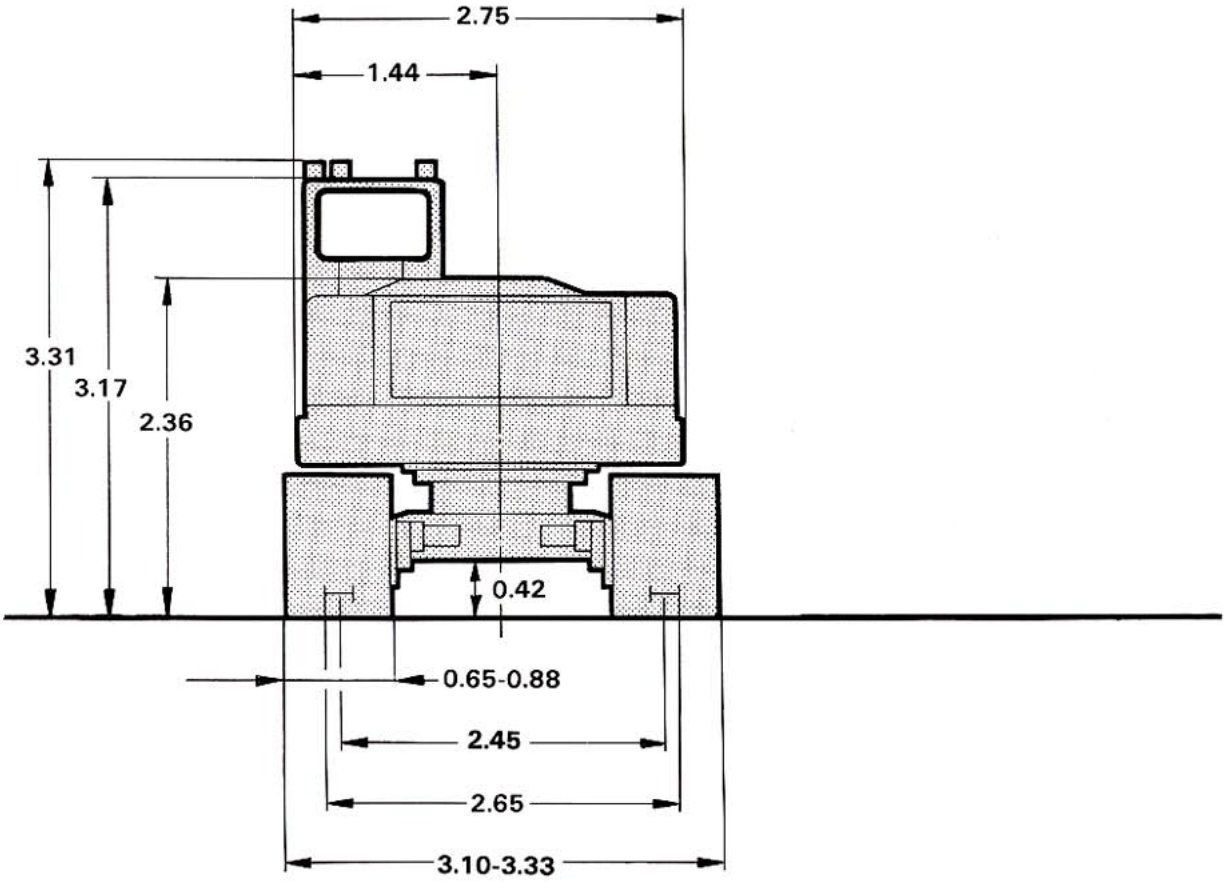
WEIGHTS

Base machine with 650 mm tracks,
incl. counterweight .....23510 kg
Counterweight .....3000 kg

Working weight and ground pressure, for complete excavator with 2.5 m dipper arm.

Track width	Ground pressure	Total weight
650 mm	47.9 kPa (0.48 bar)	28.8 t
750 mm	42.1 kPa (0.42 bar)	29.2 t
880 mm	36.6 kPa (0.37 bar)	29.8 t


0.54
0.36
3.16
0.78
2.10
0.94
0.94
1.12
1.42
4.21
5.13


2.75
1.44
3.31
3.17
2.36
0.42
0.65-0.88
2.45
2.65
3.10-3.33

BACKHOE EQUIPMENT

BACKHOE EQUIPMENT

	LENGTH	WEIGHT
Boom incl. dipper cylinder	5.87 m	2430 kg
Dipper arm, compl. incl. bucket cylinder	2.5 m	1250 kg
Dipper arm, compl. incl. bucket cylinder	3.2 m	1460 kg

BUCKETS	Capacity		Cutting Width	Weight	Suitable for dippers	
	CECE litres	SAE litres	mm	kg	2.5m	3.3m
HEAVY DUTY/	600	655	615	680	●	●
TRENCHING	750	835	750	800	●	●
	900	1105	900	875	●	●
	1100	1255	1000	975	●	X
	1200	1250	1200	1125	●	X
	1300	1505	1100	1150	●	X
	1350	1350	1360	1200	●	N.A.
	1400	1450	1200	1250	X	N.A.
	1450	1500	1200	1275	X	N.A.
BULK	1430	1620	1700	1270	●	X
	1500	1700	1600	1200	●	X
	1600	1700	1450	1100	●	X
	1742	1922	1900	1524	X	N.A.
DITCHING/	760	900	2000	590	●	●
LOADING/	1100	1260	1800	900	●	●
DITCH						
CLEANING						
CLAYFORK	1600	1800	1600	1280	●	N.A.

● Most buckets are available with standard or quickfit mountings.

X Only permissible if extra 1000 kg counterweight is specified.

The choice of bucket capacity depends on the specific weight of the material handled, the length and composition of the digging equipment and the nature of the ground on which the machine is standing.
Åkerman bucket capacities are normally calculated using the following material densities:

Heavy duty/Trenching	2.0 t/m³
Bulk/Ditching/Loading/Ditch cleaning/Clayfork	1.5 t/m³

DIGGING FORCE

	Dipper arm 2.5 m	Dipper arm 3.2 m
Digging force at bucket teeth due to bucket cylinder. (Bucket at 125° rotation)	178 kN (18.1 Mp)	
Digging force at bucket teeth due to bucket cylinder. (Bucket at 157° rotation)	150 kN (15.3 Mp)	144 kN (14.6 Mp)
Digging force at bucket teeth due to dipper arm cylinder	143 kN (14.5 Mp)	120 kN (12.3 Mp)

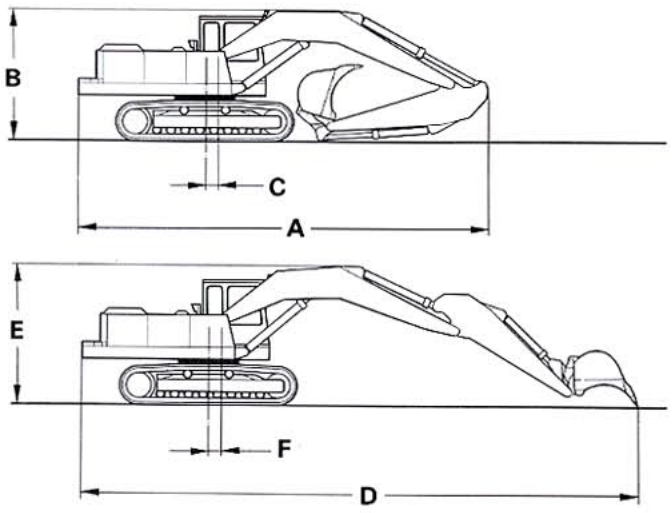
Digging forces are calculated with Åkermans' standard buckets.

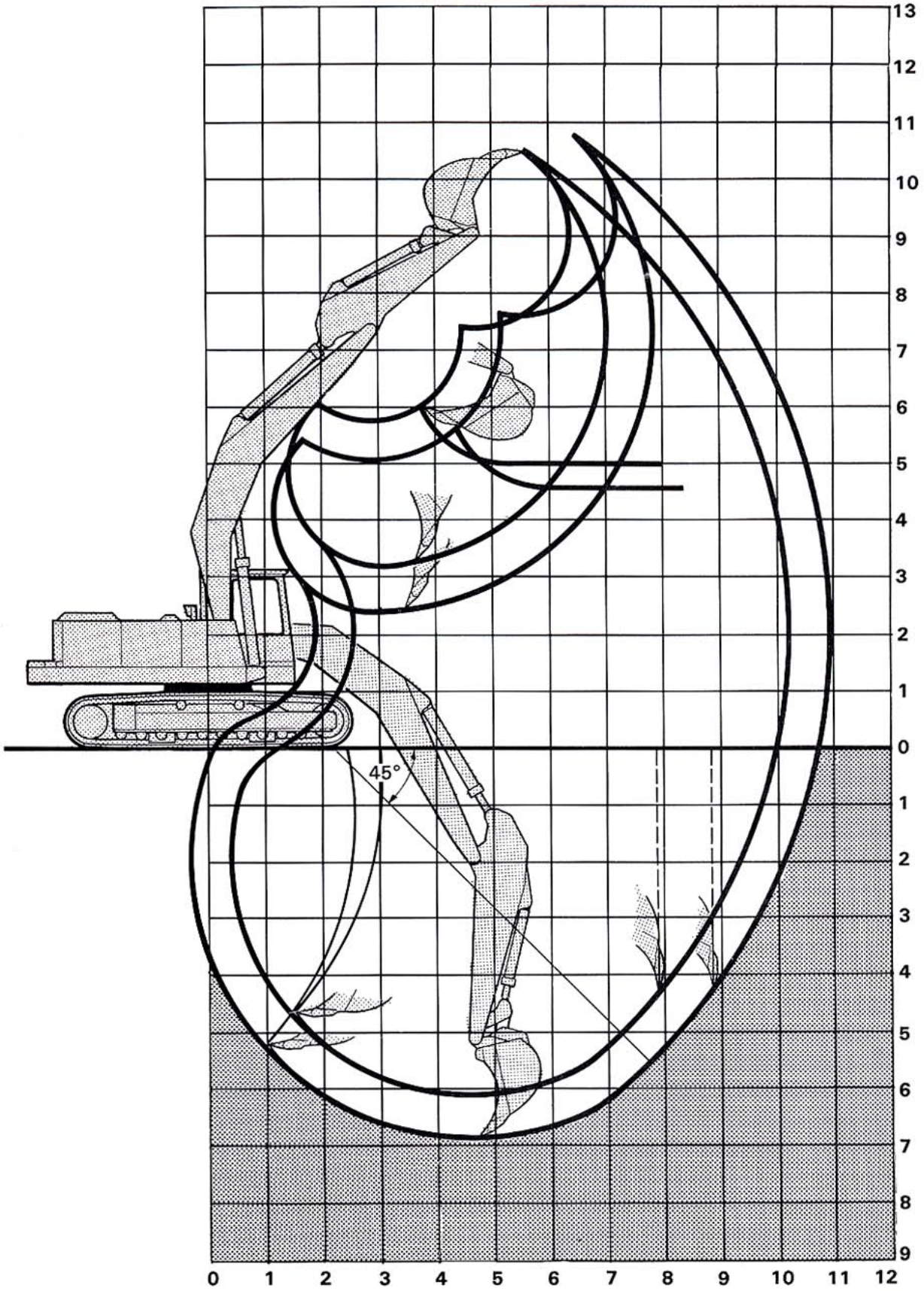
DIGGING DATA

	Dipper arm 2.5 m	Dipper arm 3.2 m
Max. reach at ground level	10.1 m	10.8 m
Max. digging depth	6.1 m	6.9 m
Max. height, ground - tooth tip	10.5 m	10.7 m
Max. dumping height	7.4 m	7.5 m
Max. practical dumping height	5.0 m	4.6 m
Practical digging depth at a repose of material of 45°	5.3 m	5.7 m
Max. vertical digging depth	4.3 m	4.3 m
Max. reach, slewing centre - bucket attachment	8.6 m	9.2 m
Max. height, ground - bucket attachment	9.0 m	9.3 m
Min. slewing radius in front	4.1 m	4.0 m

TRANSPORT DATA

Min. transport length with folded equipment (A)	10.3 m	10.3 m
Min. transport height with folded equipment (B)	3.31 m	3.31 m
Distance slewing centre - centre of gravity folded equipment (C)	0.21 m	0.18 m
Total length with extended equipment (D)	13.2 m	13.9 m
Min. transport height with extended equipment (E)	3.32 m	3.52 m
Distance slewing centre - centre of gravity extended equipment (F)	0.41 m	0.51 m





H14BLC

LIFTING CAPACITY

MAX LOAD IN DIPPER PIN (kg) = 71.4% OF THE TIPPING LOAD (UK NORM)
A = Height of bucket attachment (m) B = Reach of load from centre (m)

WITH 2.5 m DIPPER ARM — **ALONG TRACK**

A \ B	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	Max. reach
7				6870*	7420*				7420*/B= 7.0
6				7130*	7150*				7300 /B= 7.6
5		9730*	8460*	7780*	7440*	6650			6500 /B= 8.1
4		12680*	10020*	8690*	7950*	6600			6080 /B= 8.4
3			11700*	9700*	8040	6510			5910 /B= 8.5
2			13190*	10040	7890	6420			5750 /B= 8.6
1			13320	9850	7760	6350			5810 /B= 8.5
0		15050*	13180	9730	7670	6300			5980 /B= 8.3
-1	11740*	18930*	13130	9680	7640	6310			6310 /B= 8.0
-2	19930*	18300*	13170	9690	7660				6960 /B= 7.5
-3	21860*	17160*	13290	9790					8130 /B= 6.8
-4		15190*	12210*						9580*/B= 5.9
-5									
-6									

WITH 2.5 m DIPPER ARM — **ACROSS TRACK**

A \ B	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	Max. reach
7				6180	4700				4700 /B= 7.0
6				6090	4720				4070 /B= 7.6
5		9730*	7870	5920	4640	3700			3610 /B= 8.1
4		10450	7480	5700	4510	3650			3350 /B= 8.4
3			7080	5470	4370	3580			3240 /B= 8.5
2			6750	5260	4240	3500			3130 /B= 8.6
1			6540	5100	4130	3430			3150 /B= 8.5
0		8930	6420	5000	4060	3390			3230 /B= 8.3
-1	11740*	8950	6390	4950	4020	3400			3400 /B= 8.0
-2	14940	9020	6420	4970	4050				3730 /B= 7.5
-3	15130	9160	6510	5050					4320 /B= 6.8
-4		9390	6700						5390 /B= 5.9
-5									
-6									

Loads marked with an asterisk (*) are limited by the hydraulic lifting capacity. Other loads limited due to machine stability.
Working pressure with HLD = 30 MPa (300 bar).
NOTE: To comply with the requirements of the Construction (Lifting Operations) Regulations, excavators, when used as cranes, must have the protection of checkvalves on all lifting cylinders to prevent gravity fall of the load in the event of a failure.
Lifting tables are presented for reference only. When fittng safe load indicators and other equipment to comply with lifting regulations, the load to be lifted is rated at the dipper pin (excluding bucket weight) and for safety considerations only the minimum load which can be lifted at any particular radius should be specified.

LIFTING CAPACITY

MAX LOAD IN DIPPER PIN (kg) = 71.4% OF THE TIPPING LOAD (UK NORM)
A = Height of bucket attachment (m) B = Reach of load from centre (m)

WITH 3.2 m DIPPER ARM — **ALONG TRACK**

A \ B	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	Max. reach
7					6020*				6030*/B= 7.7
6				6020*	6120*	6360*			5570*/B= 8.3
5				6700*	6510*	6470*			5690*/B= 8.7
4		10260*	8560*	7630*	7090*	6620	5430		5430 /B= 9.0
3		13350*	10290*	8700*	7780*	6500	5380		5280 /B= 9.1
2		16050*	11930*	9770*	7870	6380	5310		5130 /B= 9.2
1		17240*	13250*	9810	7700	6280	5260		5170 /B= 9.1
0	8810*	18630*	13070	9640	7580	6200			5310 /B= 8.9
-1	13430*	18860*	12950	9530	7500	6160			5560 /B= 8.6
-2	18720*	18620*	12930	9500	7480	6170			5970 /B= 8.2
-3	23590*	17900*	13000	9540	7530				6720 /B= 7.6
-4	21510*	16550*	13160	9680					8040 /B= 6.8
-5		14150*	11160*						10030*/B= 5.4
-6									

WITH 3.2 m DIPPER ARM — **ACROSS TRACK**

A \ B	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	Max. reach
7					4840				4050 /B= 7.7
6				6020*	4790	3780			3520 /B= 8.3
5				6010	4680	3730			3200 /B= 8.7
4		10260*	7640	5770	4530	3650	2970		2970 /B= 9.0
3		10020	7200	5500	4370	3550	2920		2860 /B= 9.1
2		9330	6800	5250	4200	3440	2860		2760 /B= 9.2
1		8930	6500	5040	4060	3350	2810		2770 /B= 9.1
0	8810*	8740	6310	4890	3950	3280			2820 /B= 8.9
-1	13430*	8680	6210	4810	3890	3240			2950 /B= 8.6
-2	14360	8710	6200	4780	3870	3250			3160 /B= 8.2
-3	14550	8810	6250	4820	3920				3550 /B= 7.6
-4	14840	8980	6370	4930					4220 /B= 6.8
-5		9280	6620						5960 /B= 5.4
-6									

Loads marked with an asterisk (*) are limited by the hydraulic lifting capacity. Other loads limited due to machine stability.
Working pressure with HLD = 30 MPa (300 bar).
NOTE: To comply with the requirements of the Construction (Lifting Operations) Regulations, excavators, when used as cranes, must have the protection of checkvalves on lifting cylinders to prevent gravity fall of the load in the event of a failure.
Lifting tables are presented for reference only. When fitting safe load indicators and other equipment to comply with lifting regulations, the load to be lifted is rated at the dipper pin (including bucket weight) and for safety considerations only the minimum load which can be lifted at any particular radius should be specified.

EXTRA EQUIPMENT

EXAMPLES OF EXTRA EQUIPMENT AVAILABLE FOR THE ÅKERMAN H14BLC.

Dipper arm 3.2 m.

Electrically heated seat, air conditioning, radio with cassette recorder, and tinted glass to improve operator comfort.

Quickfit device
for bucket/other equipment.
Weight 220 kg.
A security hook is mounted on the quickfit fastening.
With the bucket disconnected, the lifting capacity is increased.

Full check valve (hose rupture valve)
protection to comply with lifting requirements under the Construction (Lifting Operations) Regulations.

Ripper tooth*.

Cable bucket*
Cutting width 650 mm.
Volume CECE 400 l.
Weight 380 kg.

Articulating slope bucket*
powered by the 3rd working pump.
Cutting width 1800 mm.
Volume CECE 800 l.
Weight 900 kg.

Buckets
for different materials.

Equipment for fitting hydraulic hammer, magnet, grab and polygrab.

Equipment for materials handling.

Track plates
750 and 800 mm triple bar track plates.

Remote control
for improved visibility and security.

Rotating warning lamp.

Tropical equipment.

Depth meter
for measuring digging depth.

Heavier counterweight
Weight 4000 kg.

* Adapted for quickfit device.

Åkerman Printing M93901/06/91 From machine No. 4209

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