Åkerman H10B

International 13

Engine power .....122 kW (166 hp)
Operating weight .....21.0 t
Bucket capacity .....280 - 1325 l

ÅKERMAN

BASE MACHINE

DIESEL ENGINE

VOLVO TD 61 ACE
The TD 61 ACE is a turbocharged 6-cylinder, 4-stroke diesel engine with water cooling and direct injection.
Output at 2100 rpm.....122 kW (166 Hp)
(According to ISO 3046 and DIN 6271)
Cylinder diameter .....98.43 mm
Piston stroke .....120 mm
Stroke volume.....5.48 dm^3
The engine is equipped with an electric heater element to facilitate starting in cold weather.

ELECTRIC SYSTEM, 24V

A.C.Generator 28 V/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.....88 l/min
Pumps 2 and 3 (power and pressure controlled)
Max. pressure .....26 MPa (260 bar)
Max. flow .....2 x 142 l/min
Pumps 2 and 3 with HLD
Max. pressure .....30 MPa (300 bar)
Servo pump
Pressure.....6.5 MPa (65 bar)
Flow .....about 21 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 .....8 rpm
90° turn from start to stop .....4.6 s
180° turn from start to stop .....6.5 s
(Bucket empty - equipment extended)

UNDERCARRIAGE

Running
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.....197 kN (20.1 Mp)
Track speed, high speed.....3.0 km/h
Track speed, low speed .....2.3 km/h
Tracks
Track chain B 60 - specially reinforced for excavator use.
Number of track plates each side .....44 pcs.
Track width .....650 (750 and 900) mm
Rollers each side .....8 bottom rollers and 1 top roller

CYLINDER DATA

Boom cylinder
Internal diameter .....160 mm
Piston rod diameter .....105 mm
Piston stroke .....1395 mm
Piston force, out.....523 kN (53.3 Mp)
Piston force, out with HLD .....603 kN (61.5 Mp)
Dipper arm cylinder
Internal diameter .....160 mm
Piston rod diameter .....105 mm
Piston stroke .....1175 mm
Piston force, out.....523 kN (53.3 Mp)
Piston force, out with HLD .....603 kN (61.5 Mp)
Bucket cylinder
Internal diameter .....140 mm
Piston rod diameter .....90 mm
Piston stroke .....850 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).....28 l
Hydraulic system, total .....about 400 l
Hydraulic oil tank .....260 l
Diesel engine (lubricating oil).....22 l
Pump gearbox.....2.8 l
Slew gearbox .....18 l
Slew ring .....17 l
Travel gearbox .....2 x 16 l

SOUND LEVEL

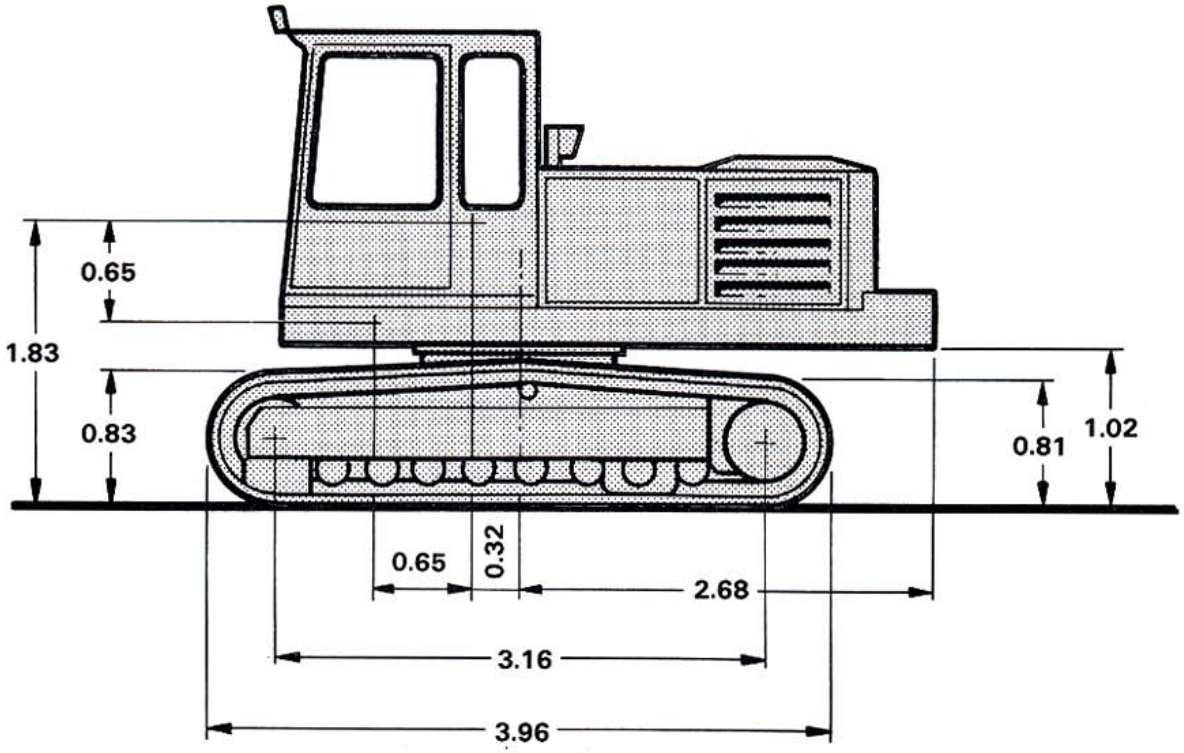
Surroundings (10 metres distance from the machine)
Average value L_{pA} (sound pressure).....77 dB(A)
Average value L_{WA} (acoustic power).....105 dB(A)
(According to ISO 6393)
Inside the cab with the door closed
Average value L_{pA} (sound pressure).....73 dB(A)
(ISO 6394)
Approved according to 86/662/EEC

WEIGHTS

Base machine with 650 mm track,
incl. counterweight .....17140 kg
Counterweight .....2600 kg

Working weight and ground pressure, for complete excavator with 2.25 m dipper arm.

Track width	Ground pressure	Total weight
650 mm	46.1 kPa (0.46 bar)	21.0 t
750 mm	40.4 kPa (0.40 bar)	21.3 t
900 mm	34.5 kPa (0.34 bar)	21.8 t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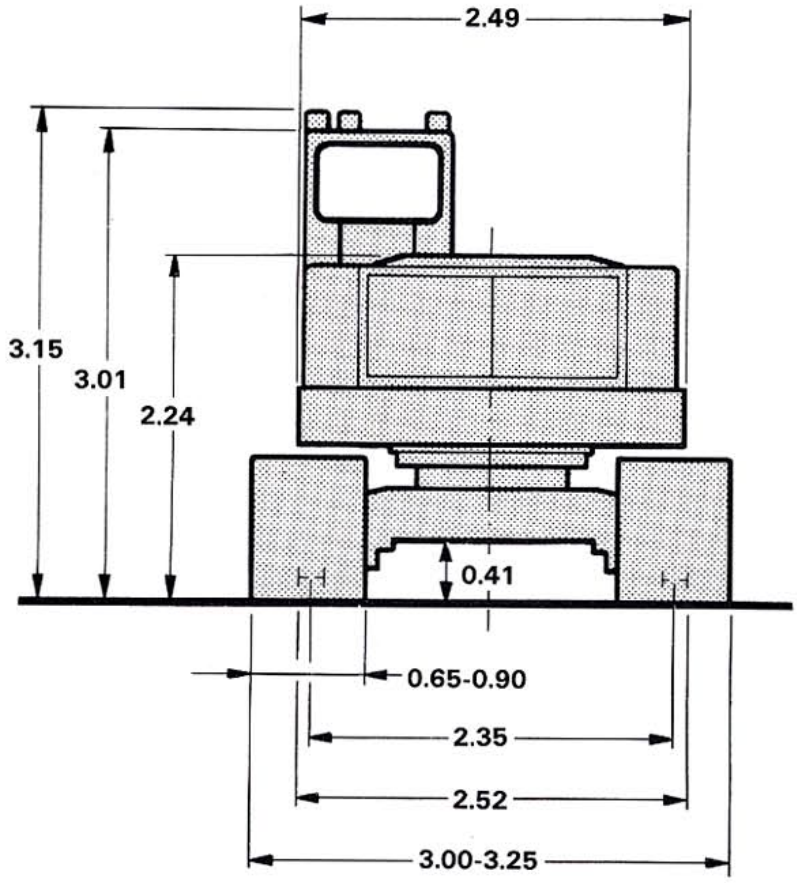
0.83
0.81
1.02
0.65
0.32
2.68
3.16
3.96


2.49
3.15
3.01
2.24
0.41
0.65-0.90
2.35
2.52
3.00-3.25

BACKHOE EQUIPMENT

BACKHOE EQUIPMENT

Boom length ..... **5.2 m**

Data for 2.25 m dipper arm

HD-bucket 1050 litres CECE = 1050 litres SAE J296
Weight ..... 960 kg
Cutting width ..... 1050 mm

HD-bucket 1000 litres CECE = 1000 litres SAE J296
(Fitting the quickfit only)
Weight incl. quickfit ..... 1010 kg
Cutting width ..... 1050 mm
Weight: equipment with 2.25 m dipper arm ..... 3900 kg

Data for 2.80 m dipper arm

HD-bucket 900 litres CECE = 900 litres SAE J296
(Fitting standard attachment as well as quickfit)
Weight ..... 760 kg
Cutting width ..... 1050 mm
Weight incl. quickfit ..... 920 kg
Weight: equipment with 2.80 m dipper arm ..... 3880 kg

Data for 3.30 m dipper arm

HD-bucket 800 litres CECE = 850 litres SAE J296
(Fitting the quickfit only)
Weight incl. quickfit ..... 950 kg
Cutting width ..... 1040 mm
Weight: equipment with 3.30 m dipper arm ..... 4150 kg

DIGGING FORCE

	Dipper arm 2.25 m	Dipper arm 2.80 m	Dipper arm 3.30 m
Digging force at bucket tooth due to bucket cylinder at 128° torsional angle of the bucket	140 kN (14.3 Mp)	149 kN (15.2 Mp)	
Digging force at bucket tooth due to bucket cylinder at 156° torsional angle of the bucket	121 kN (12.3 Mp)	129 kN (13.2 Mp)	124 kN (12.6 Mp)
Digging force at bucket tooth due to dipper arm cylinder	105 kN (10.7 Mp)	94 kN (9.5 Mp)	86 kN (8.8 Mp)

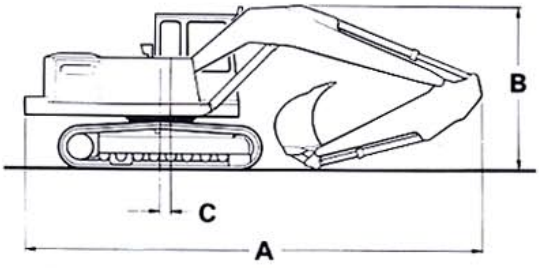
Digging forces are calculated with Åkermans' standard buckets.

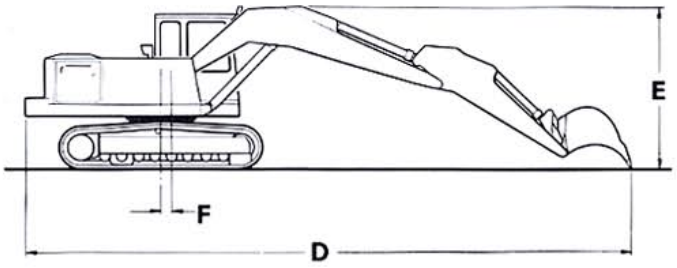
DIGGING DATA

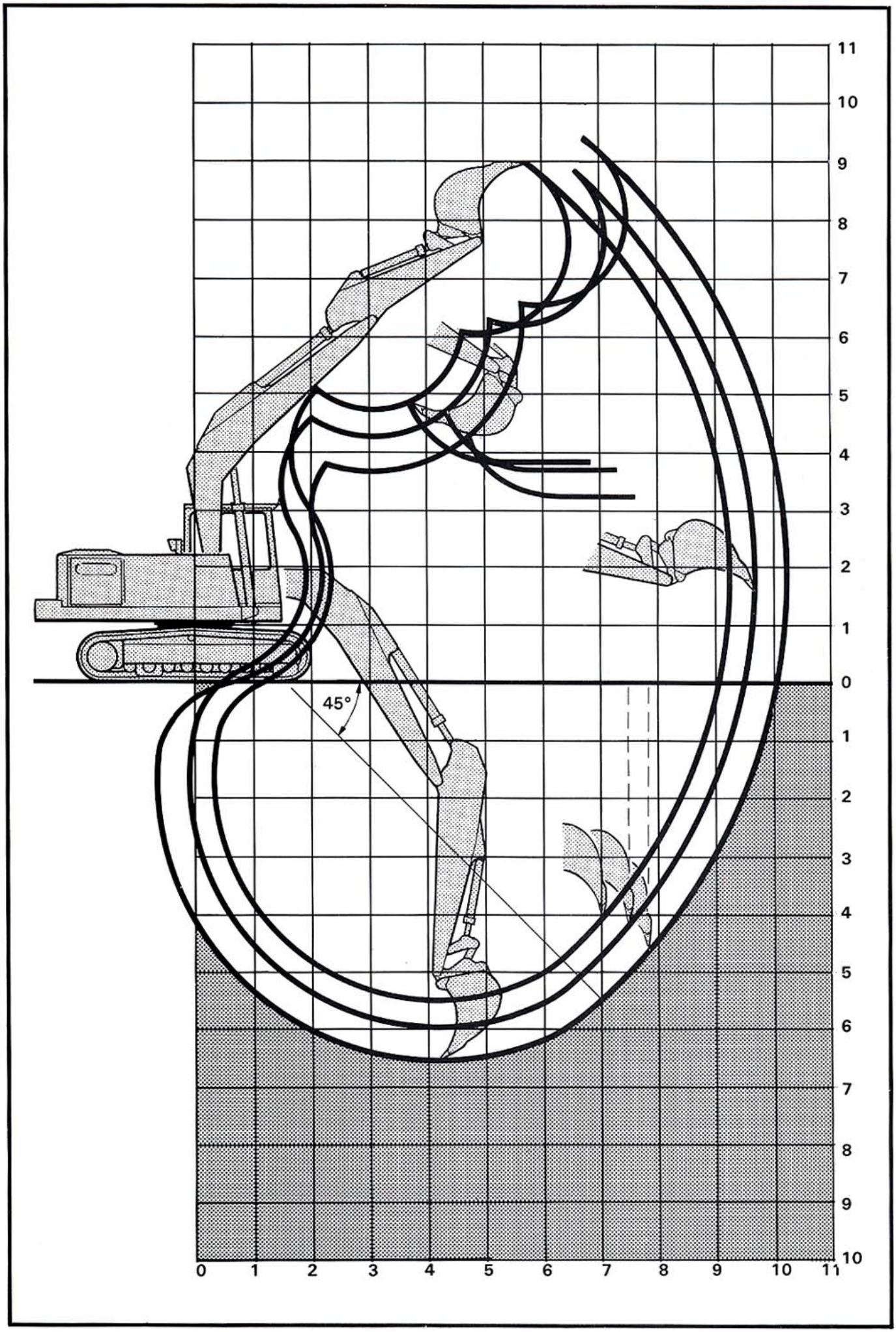
	Dipper arm 2.25 m	Dipper arm 2.80 m	Dipper arm 3.30 m
Max. reach at ground level	9.1 m	9.5 m	10.0 m
Max. digging depth	5.5 m	6.0 m	6.5 m
Max. height, ground - tooth tip	8.9 m	8.8 m	9.3 m
Max. dumping height	6.0 m	6.2 m	6.5 m
Max. practical dumping height	3.8 m	3.7 m	3.2 m
Practical digging depth at a repose of material of 45°	4.8 m	5.0 m	5.4 m
Max. vertical digging depth	4.1 m	4.2 m	4.6 m
Max. reach, slewing centre - bucket attachment	7.7 m	8.2 m	8.7 m
Max. height, ground - bucket attachment	7.6 m	7.7 m	8.0 m
Min. front slewing radius	4.1 m	4.1 m	4.2 m

TRANSPORT DATA

Min. transport length with folded equipment (A)	9.0 m	9.0 m	9.0 m
Min. transport height with folded equipment (B)	3.20 m	3.25 m	3.90 m
Distance slewing centre - centre of gravity, folded equipment (C)	0.1 m	0.2 m	0.2 m
Total length with extended equipment (D)	11.8 m	12.2 m	12.7 m
Min. transport height with extended equipment (E)	3.15 m	3.20 m	3.20 m
Distance slewing centre - centre of gravity, extended equipment (F)	0.3 m	0.4 m	0.4 m







H10B

LIFTING CAPACITY

MAX LOAD IN BUCKET HOOK (kg) = 80% OF THE TIPPING LOAD
A = Height of bucket attachment (m) B = Reach of load from centre (m)

WITH 2.25 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									
6					3710*				
5					3760*				3290 /B= 7.9
4			5120*	4430*	4050*	3180			2940 /B= 8.3
3			6400*	5130*	3990	3120			2770 /B= 8.5
2			6740	5010	3870	3050			2660 /B= 8.6
1			6280*	4860	3760	2990			2630 /B= 8.6
0			6460	4770	3700	2950			2720 /B= 8.4
-1		9610	5930*	4740	3670	2950			2950 /B= 8.0
-2	12140*	8990*	6020*	4760	3690				3320 /B= 7.5
-3		6180*	6580	4840					
-4									
-5									
-6									

WITH 2.25 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									
6					3020				
5					2980				2280 /B= 7.9
4			5120*	3860	2890	2190			2010 /B= 8.3
3			4940	3660	2780	2130			1860 /B= 8.5
2			4640	3470	2660	2070			1780 /B= 8.6
1			4460	3340	2570	2010			1740 /B= 8.6
0			4390	3250	2510	1970			1810 /B= 8.4
-1		6400	4380	3220	2480	1970			1970 /B= 8.0
-2	11030	6480	4410	3240	2500				2240 /B= 7.5
-3		6180*	4500	3310					
-4									
-5									
-6									

Loads marked with an asterisk (*) are limited by the lifting capacity of the hydraulic system. Other loads limited due to machine stability.
Working pressure with HLD = 30 MPa (300 bar)

LIFTING CAPACITY

MAX LOAD IN BUCKET HOOK (kg) = 80% OF THE TIPPING LOAD
A = Height of bucket attachment (m) B = Reach of load from centre (m)

WITH 2.80 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					3510*				
6					3340*				3030 /B= 7.8
5					3480*	3360			3110 /B= 8.3
4				4060*	3800*	3310			2790 /B= 8.7
3			5730*	4770*	4110	3230			2630 /B= 8.9
2			6920*	5140	3980	3150	2530		2530 /B= 9.0
1			6650	4960	3850	3070			2540 /B= 8.9
0		9540	6500	4840	3770	3020			2570 /B= 8.8
-1	11520*	9520	6450	4770	3720	2990			2720 /B= 8.5
-2	13390*	8040*	6450	4760	3710	3010			3010 /B= 8.0
-3	9400*	6520*	6520	4810	3770				
-4		7620*	6250*	4890*					

WITH 2.80 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					3160				
6					3190				2510 /B= 7.8
5					3130	2360			2170 /B= 8.3
4				4020	3030	2320			1910 /B= 8.7
3			5160	3810	2900	2240			1780 /B= 8.9
2			4820	3600	2770	2160	1700		1700 /B= 9.0
1			4570	3430	2660	2090			1700 /B= 8.9
0		6350	4430	3320	2570	2040			1710 /B= 8.8
-1	10650	6330	4380	3260	2530	2010			1820 /B= 8.5
-2	10760	6380	4390	3250	2520	2030			2030 /B= 8.0
-3	9400*	6490	4440	3290	2570				
-4		6660	4570	3410					

WITH 3.30 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						2930*			2710*/B= 8.1
6						3070*			2840 /B= 8.7
5					3120*	3130*	2580		2480 /B= 9.2
4				3710*	3470*	3150	2530		2210 /B= 9.6
3			5000*	4340*	3870	3120	2470		2070 /B= 9.8
2		7950*	6010*	4900*	3820	3010	2400		1990 /B= 9.9
1		9290	6380	4750	3670	2900	2330		1990 /B= 9.8
0		9100	6190	4590	3560	2820	2280		2010 /B= 9.7
-1	10530*	9010	6090	4500	3480	2770	2260		2120 /B= 9.4
-2	14090*	9000	6060	4470	3450	2770			2340 /B= 8.9
-3	12990*	9040	6110	4480	3470	2810			2670 /B= 8.3
-4	11250*	8530*	6190	4560	3570				3240 /B= 7.5

WITH 3.30 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						2360			2320 /B= 8.1
6						2370			1940 /B= 8.7
5					2980	2320	1740		1660 /B= 9.2
4				3710*	2950	2240	1700		1440 /B= 9.6
3			4940*	3710	2790	2140	1640		1330 /B= 9.8
2		6620	4660	3460	2630	2030	1570		1250 /B= 9.9
1		6220	4370	3260	2490	1940	1510		1250 /B= 9.8
0		6030	4190	3110	2390	1860	1460		1260 /B= 9.7
-1	9990	5970	4100	3030	2320	1810	1440		1340 /B= 9.4
-2	10140	5970	4080	3000	2290	1800			1500 /B= 8.9
-3	10180	6040	4120	3010	2310	1840			1740 /B= 8.3
-4	10310	6130	4210	3080	2400				2170 /B= 7.5

Loads marked with an asterisk (*) are limited by the lifting capacity of the hydraulic system.
Other loads limited due to machine stability.
Working pressure with HLD = 30 MPa (300 bar)

Specifications and design are subject to change without notice.
Reservation is made for minor deviations of dimensions and weights listed.

Åkerman Printing M91721/05/91 From machine No. 3853 - up

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