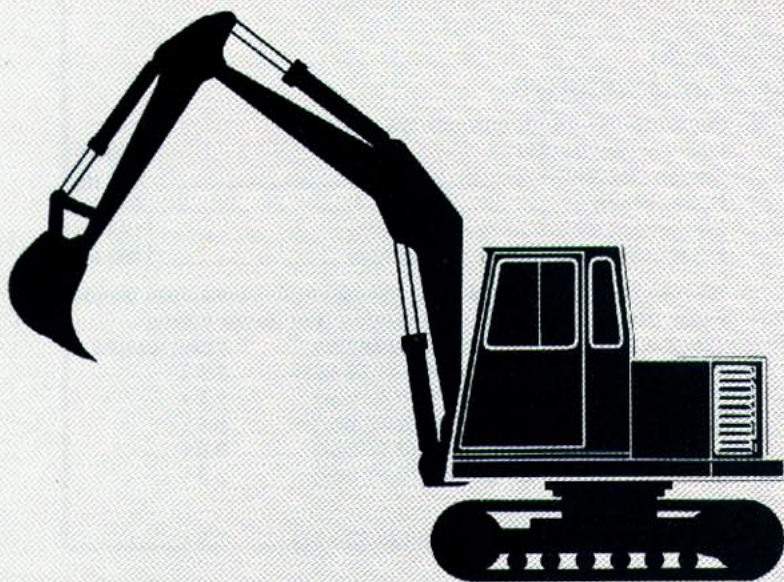
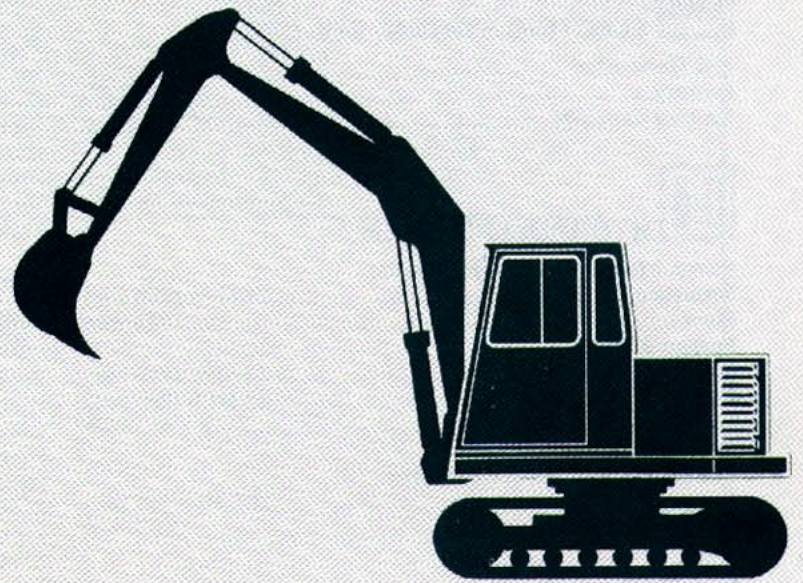


# ÅKERMAN H3<sup>B</sup>

International 11



# BASE MACHINE



## DIESEL ENGINE

### VOLVO PENTA TD31ACE

The TD31ACE is a turbocharged 4-cylinder, 4-stroke diesel engine with water cooling and direct injection.

Output at 2600 rpm .....49 kW (67 Hp)

(According to ISO 3046 and DIN 6271)

Cylinder diameter .....92 mm

Piston stroke .....90 mm

Stroke volume.....2.4 dm<sup>3</sup>



## ELECTRIC SYSTEM, 24V

A.C. Generator .....28 V/45A

Battery .....2 pcs. (12V)

Battery capacity .....60 Ah



## HYDRAULIC SYSTEM

### Pump 1 (slew, boom movement)

Pressure .....26 MPa (260 bar)

Flow .....32 l/min

### Pumps 2 and 3

Pressure, digging .....21 MPa (210 bar)

Pressure travel .....23 MPa (230 bar)

Flow .....2 x 45 l/min

### Servo pump (PS)

The servo pump is of gear type.

Pressure .....6.5 MPa (65 bar)

Flow .....12.3 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 .....7.2 rpm

90° turn from start to stop .....3 s

180° turn from start to stop .....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 .....81 kN (8.3 Mp)

Track speed, (low and high speed).....1.5 resp. 3.0 km/h

### Tracks

Track chain B2 - specially reinforced for excavator use.

Number of track plates each side .....38 pcs.

Track width .....500 (400 - 900) mm

Rollers each side .....6 bottom rollers

Slide bar instead of top roller.



## CYLINDER DATA

### Boom cylinder

Internal diameter .....125 mm

Piston rod diameter .....70 mm

Piston stroke .....700 mm

Piston force, out .....258 kN (26.3 Mp)

### Dipper arm cylinder

Internal diameter .....110 mm

Piston rod diameter .....70 mm

Piston stroke .....690 mm

Piston force, out .....200 kN (20.3 Mp)

### Bucket cylinder

Internal diameter .....100 mm

Piston rod diameter .....63 mm

Piston stroke .....650 mm

Piston force, out .....165 kN (16.8 Mp)

### Slewing cylinder

Internal diameter .....110 mm

Piston rod diameter .....63 mm

Piston stroke .....334 mm

Piston force, out .....247 kN (25.2 Mp)



## VOLUMES

Fuel tank .....150 l

Hydraulically driven fuel pump, capacity .....ca. 60 l/min

Cooling system (incl. glycol) .....23 l

Hydraulic system, total .....160 l

Hydraulic oil tank .....110 l

Diesel engine (lubricating oil) .....10 l

Pump gearbox .....2 l

Slew gearbox .....7 l

Travel gearbox .....2 x 7 l



## SOUND LEVEL

Surroundings (10 metres distance from the machine)

Average value  $L_{pA}$  (sound pressure) .....74 dB(A)

Average value  $L_{WA}$  (acoustic power) .....102 dB(A)

(According to ISO 6393)

Inside the cab with the door closed

$L_{pA}$  (sound pressure) .....78 dB(A)

(ISO 6394)

Approved according to 86/662/EEC



## WEIGHTS

Base machine with 500 mm track,

incl. counterweight .....7175 kg

Counterweight .....350 kg

Dozer blade .....400 kg

Equipment with 1.75 m dipper arm .....1125 kg

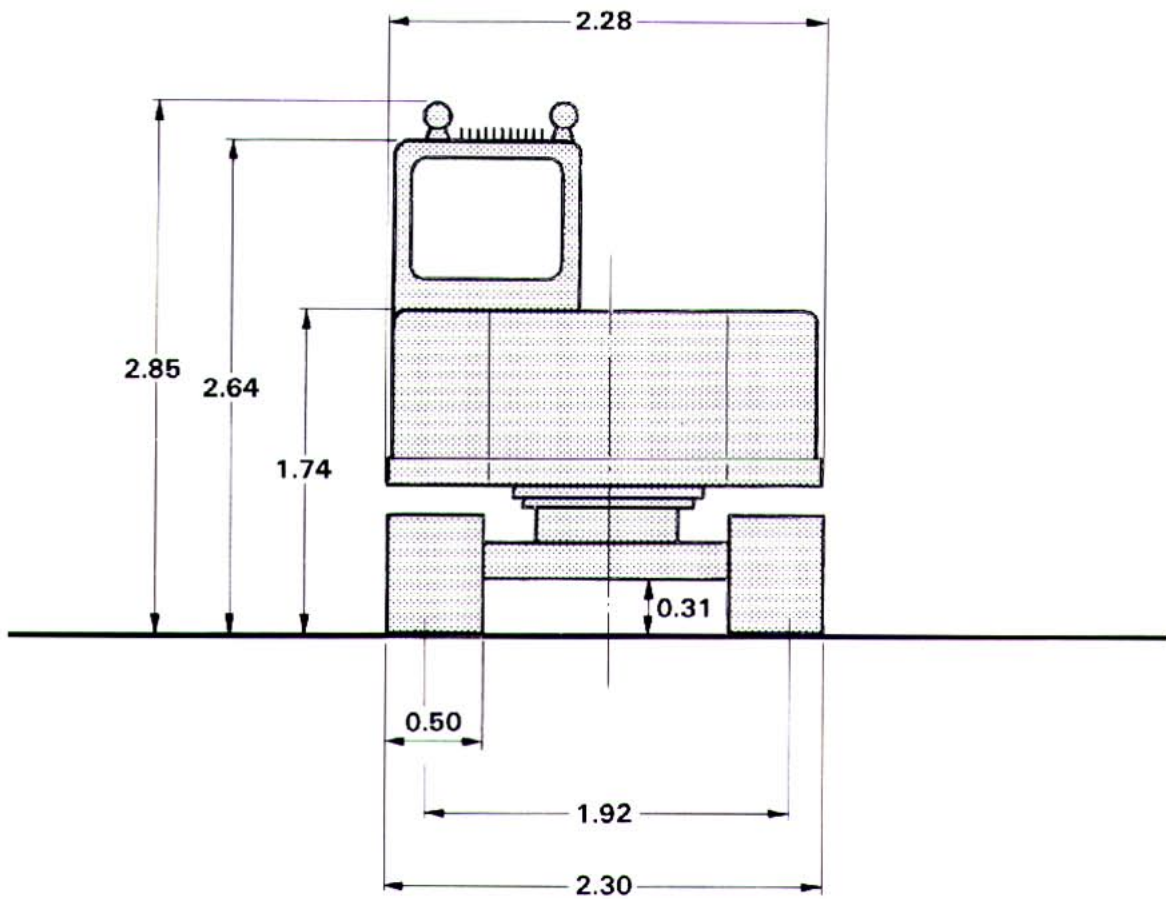
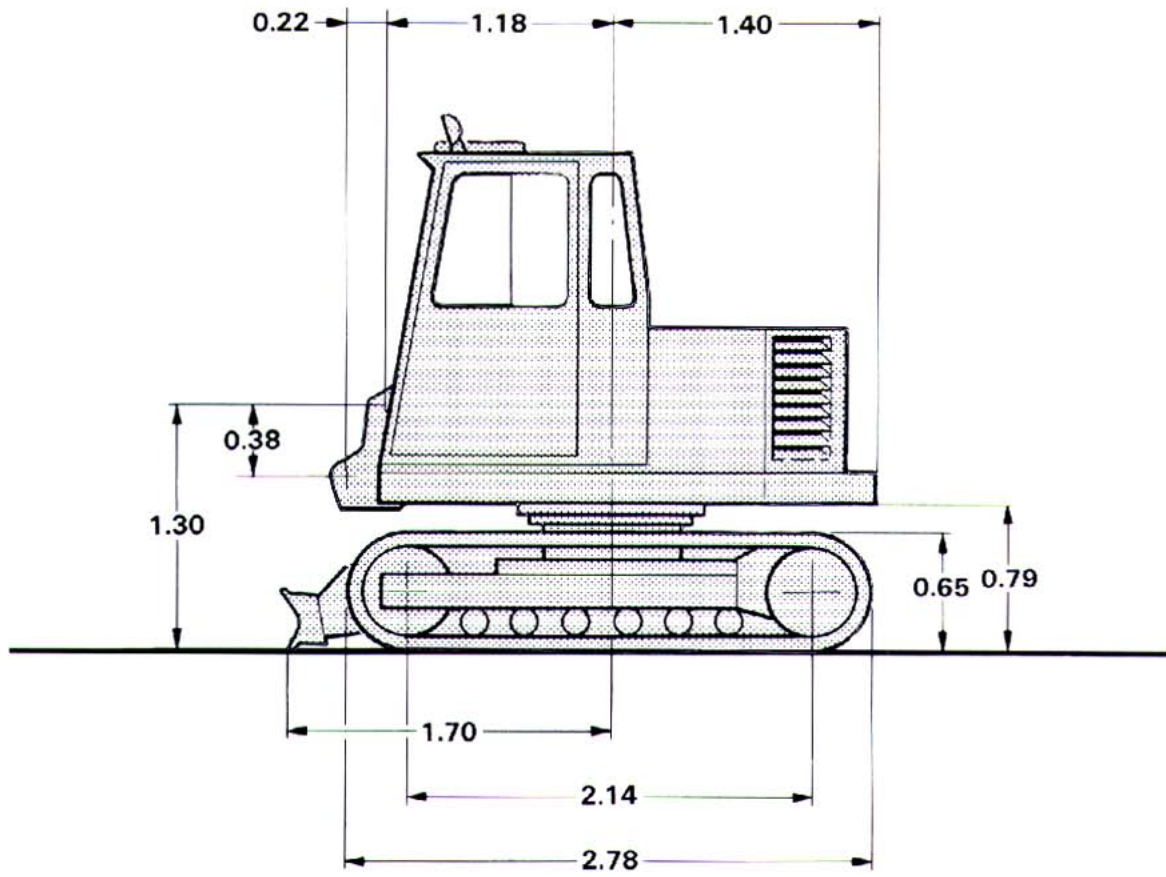
Equipment with 2.30 m dipper arm .....1180 kg

**Working weight and ground pressure, for complete excavator with 1.75 m dipper arm incl. 2.3 m dozer blade.**

Track width	Ground pressure	Total weight
500 mm	34.4 kPa (0.34 bar)	8.3 t
400 mm	42 kPa (0.42 bar)	8.2 t
600 mm	28 kPa (0.28 bar)	8.4 t
700 mm	25 kPa (0.25 bar)	8.6 t
900 mm	21 kPa (0.21 bar)	8.9 t

### Without dozer blade

500 mm .....32.0 kPa (0.32 bar) .....7.9 t



# BACKHOE EQUIPMENT

## BACKHOE EQUIPMENT

Boom length .....3.30 m

### Data for short dipper arm - 1.75 m

HD-bucket 325 litres CECE = 350 litres SAE J296  
 Weight.....225 kg  
 Cutting width .....800 mm  
 Weight incl. quickfit .....265 kg

### Data for long dipper arm - 2.30 m

HD-bucket 275 litres CECE = 290 litres SAE J296  
 Weight.....220 kg  
 Cutting width .....750 mm  
 Weight incl. quickfit .....260 kg

## DIGGING FORCE

	Dipper arm 1.75 m	Dipper arm 2.30 m
Digging force in bucket tooth due to bucket cylinder at 180° torsional angle of the bucket	45 kN (4.6 Mp)	48 kN (4.9 Mp)

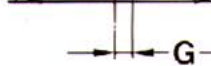
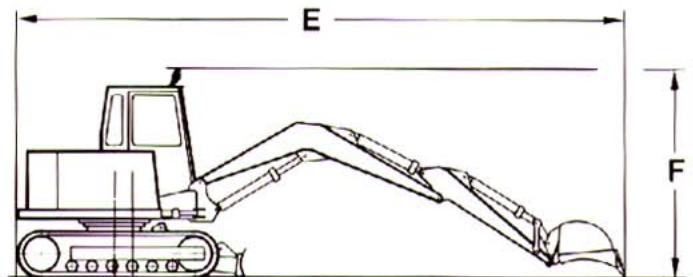
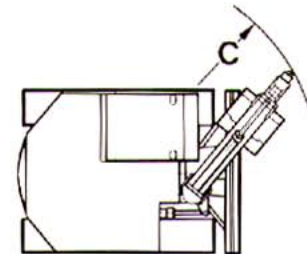
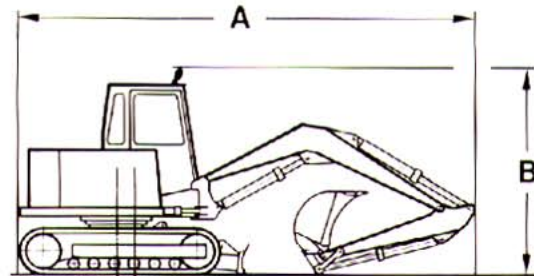
Digging force in bucket tooth due to dipper arm cylinder	28 kN (2.8 Mp)	32 kN (3.3 Mp)
--	-------------------	-------------------

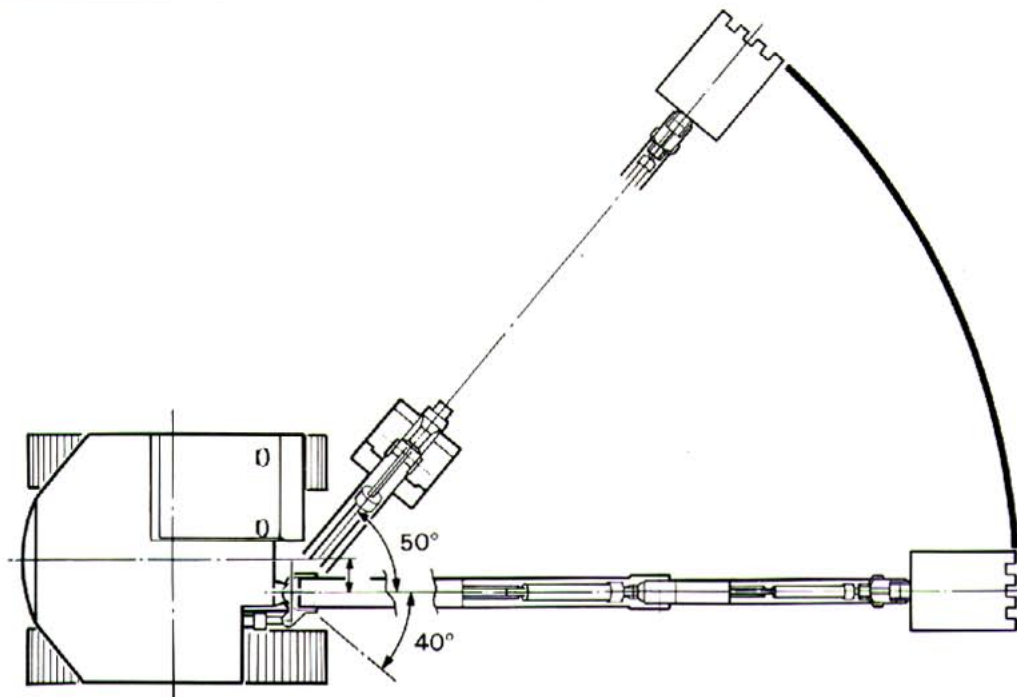
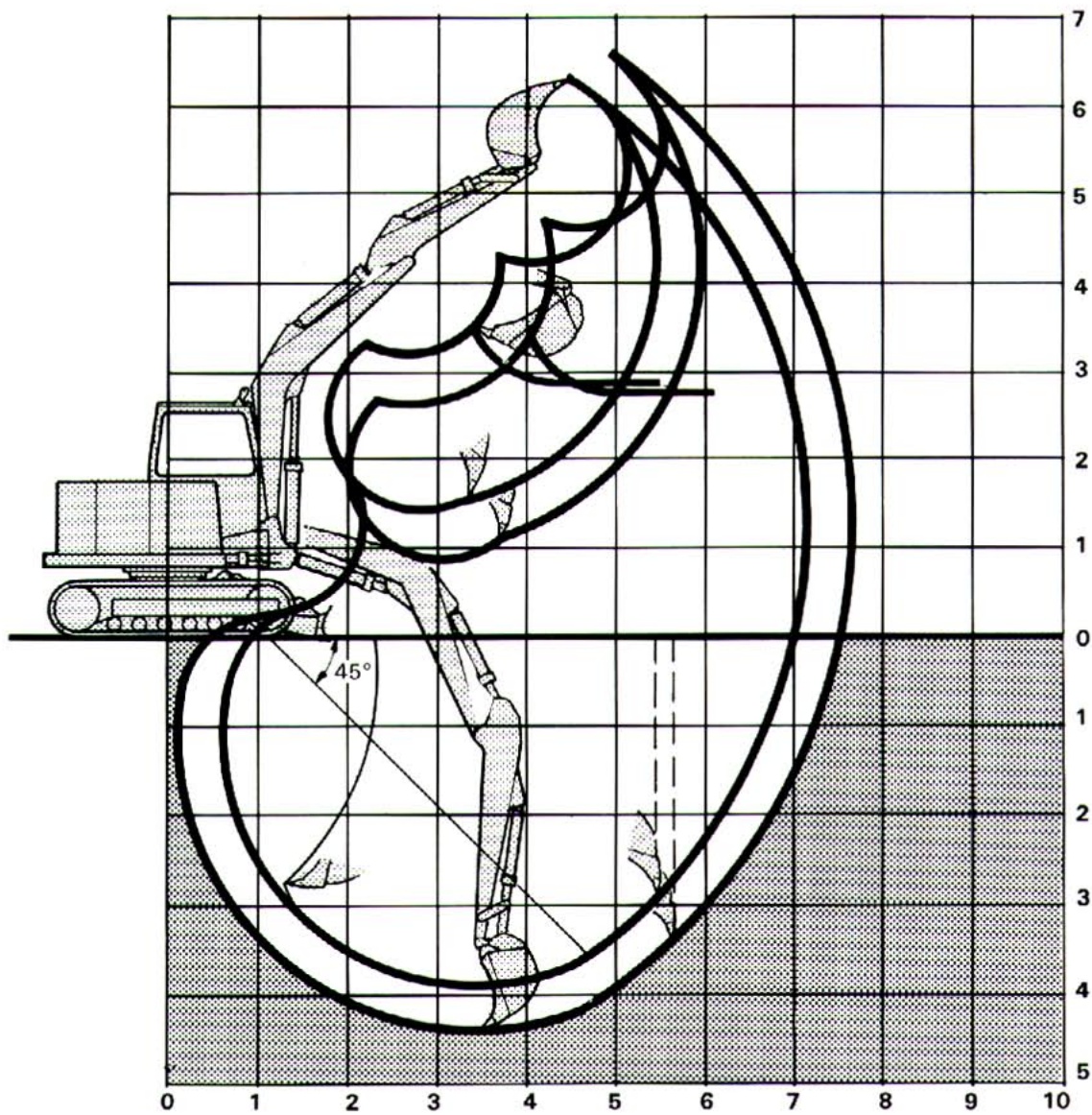
## DIGGING DATA

	Dipper arm 1.75 m	Dipper arm 2.30 m
Max. reach at ground level .....	7.0 m	7.5 m
Reach at ground level with the boom turned 50° to the left .....	6.5 m	7.0 m
Max. digging depth .....	3.9 m	4.4 m
Max. height, ground - tooth tip .....	6.3 m	6.5 m
Max. practical dumping height.....	2.9 m	2.8 m
Practical digging depth at a repose of material of 45° .....	3.6 m	3.9 m
Max. vertical digging depth.....	2.9 m	3.3 m

## TRANSPORT DATA

	Dipper arm 1.75 m	Dipper arm 2.30 m
Min. transport length with folded equipment (A) .....	5.1 m	5.1 m
Min. transport height with folded equipment (B) .....	2.9 m	2.9 m
Min. turning radius - folded equipment and with the boom turned 50° to the left (C) ...	2.9 m	2.9 m
Distance slewing centre - centre of gravity, folded equipment (D).....	0.42 m	0.45 m
Total length with extended equipment (E) .....	8.4 m	8.9 m
Min. transport height with extended equipment (F).....	2.9 m	2.9 m
Distance slewing centre - centre of gravity, extended equipment (G).....	0.55 m	0.60 m





# LIFTING CAPACITY

MAX LOAD IN BUCKET LINK (kg) = 80% OF THE TIPPING LOAD

A = Height of bucket attachment (m) B = Reach of load from centre (m)

WITH 1.75 m DIPPER ARM		ALONG UNDERCARRIAGE							DOZERBLADE UP	
B \ A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach	
5									1100*/B = 4.8	
4					1040*	1040			970 /B = 5.7	
3				1210*	1190*	1030	860		810 /B = 6.2	
2		2130	1710	1410	1170	990	840		740 /B = 6.4	
1			1600	1330	1120	950	820	700	700 /B = 6.5	
0		1930	1550	1280	1080	920	800		730 /B = 6.3	
-1	2550	1940	1540	1270	1070	920			820 /B = 5.9	
-2	2590	1970	1570	1290	1090				1030 /B = 5.2	
-3										
-4										
-5										
-6										

WITH 1.75 m DIPPER ARM		ACROSS UNDERCARRIAGE							DOZERBLADE UP	
B \ A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach	
5									1100*/B = 4.8	
4					1040*	870			800 /B = 5.7	
3				1210*	1020	850	710		660 /B = 6.2	
2		1750	1410	1160	970	820	690		600 /B = 6.4	
1			1310	1090	920	780	670	570	570 /B = 6.5	
0		1560	1260	1050	880	750	650		590 /B = 6.3	
-1	2050	1570	1260	1040	870	750			670 /B = 5.9	
-2	2080	1600	1280	1050	890				840 /B = 5.2	
-3										
-4										
-5										
-6										

WITH 1.75 m DIPPER ARM		ALONG UNDERCARRIAGE							DOZERBLADE DOWN	
B \ A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach	
5									1100*/B = 4.8	
4					1040*	1130*			1190*/B = 5.7	
3				1210*	1190*	1180*	1200*		1230*/B = 6.2	
2		2450*	1930*	1650*	1480*	1370*	1310*		1290*/B = 6.4	
1			2590*	2100*	1800*	1590*	1450*	1360*	1360*/B = 6.5	
0		3640*	2900*	2380*	2010*	1750*	1560*		1450*/B = 6.3	
-1	4330*	3510*	2890*	2420*	2060*	1770*			1550*/B = 5.9	
-2	3730*	3080*	2580*	2170*	1800*				1640*/B = 5.2	
-3										
-4										
-5										
-6										

WITH 1.75 m DIPPER ARM		ACROSS UNDERCARRIAGE							DOZERBLADE DOWN	
B \ A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach	
5									1100*/B = 4.8	
4					1040*	980			910 /B = 5.7	
3				1210*	1150	970	810		760 /B = 6.2	
2		1980	1600	1320	1100	930	790		700 /B = 6.4	
1			1490	1240	1050	890	760	660	660 /B = 6.5	
0		1790	1440	1200	1010	870	750		690 /B = 6.3	
-1	2350	1790	1440	1190	1000	860			770 /B = 5.9	
-2	2390	1820	1460	1210	1020				960 /B = 5.2	
-3										
-4										
-5										
-6										

Loads marked with an asterisk (\*) are limited by the hydraulic lifting capacity.

Other loads limited due to machine stability.

Working pressure = 21 MPa (210 bar).

With disconnected bucket the permitted load increases by 130 kg.

# LIFTING CAPACITY

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

**WITH 2.30 m DIPPER ARM ALONG UNDERCARRIAGE DOZERBLADE UP**

B A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach
5						910*			910*/B = 5.5
4						820*	880		780 /B = 6.3
3						920*	860	730	680 /B = 6.7
2			1450*	1300*	1170	980	830	710	620 /B = 6.9
1		2000	1610	1330	1110	940	800	680	590 /B = 7.0
0		1900	1530	1260	1060	900	770	660	610 /B = 6.8
-1	2470	1880	1500	1230	1030	880	750	660	660 /B = 6.5
-2	2500	1890	1500	1230	1030	880			790 /B = 5.9
-3	2560	1940	1550	1270					1110 /B = 4.9
-4									
-5									
-6									

**WITH 2.30 m DIPPER ARM ACROSS UNDERCARRIAGE DOZERBLADE UP**

B A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach
5						870			870 /B = 5.5
4						820*	720		640 /B = 6.3
3						850	710	590	550 /B = 6.7
2			1450	1180	970	810	680	570	500 /B = 6.9
1		1630	1320	1090	910	760	650	550	460 /B = 7.0
0		1530	1240	1020	860	730	620	530	480 /B = 6.8
-1	1970	1510	1210	990	830	710	600	520	520 /B = 6.5
-2	1990	1520	1220	1000	830	710			630 /B = 5.9
-3	2060	1570	1260	1030					910 /B = 4.9
-4									
-5									
-6									


**WITH 2.30 m DIPPER ARM ALONG UNDERCARRIAGE DOZERBLADE DOWN**

B A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach
5						910*			910*/B = 5.5
4						820*	910*		990*/B = 6.3
3						920*	950*	1000*	1020*/B = 6.7
2			1450*	1300*	1210*	1140*	1100*	1080*	1080*/B = 6.9
1		2860*	2200*	1810*	1570*	1400*	1290*	1210*	1150*/B = 7.0
0		3460*	2700*	2200*	1860*	1620*	1450*	1310*	1240*/B = 6.8
-1	4590*	3570*	2870*	2370*	2000*	1730*	1510*	1320*	1320*/B = 6.5
-2	4190*	3350*	2750*	2300*	1940*	1650*			1410*/B = 5.9
-3	3320*	2700*	2230*	1830*					1490*/B = 4.9
-4									
-5									
-6									

**WITH 2.30 m DIPPER ARM ACROSS UNDERCARRIAGE DOZERBLADE DOWN**

B A	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	Max. reach
5						910*			910*/B = 5.5
4						820*	820		730 /B = 6.3
3						920*	810	680	630 /B = 6.7
2			1450*	1300*	1100	920	780	660	580 /B = 6.9
1		1850	1500	1240	1040	880	750	640	550 /B = 7.0
0		1760	1420	1170	990	840	720	620	570 /B = 6.8
-1	2270	1740	1390	1150	960	820	700	610	610 /B = 6.5
-2	2290	1750	1400	1150	960	820			740 /B = 5.9
-3	2360	1800	1440	1190					1040 /B = 4.9
-4									
-5									
-6									

Loads marked with an asterisk (\*) are limited by the hydraulic lifting capacity.  
 Other loads limited due to machine stability.  
 Working pressure = 21 MPa (210 bar).  
 With disconnected bucket the permitted load increases by 130 kg.



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

Åkerman Printing M83821/06/91 Machine No. 583 - up

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