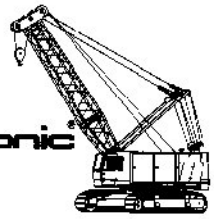
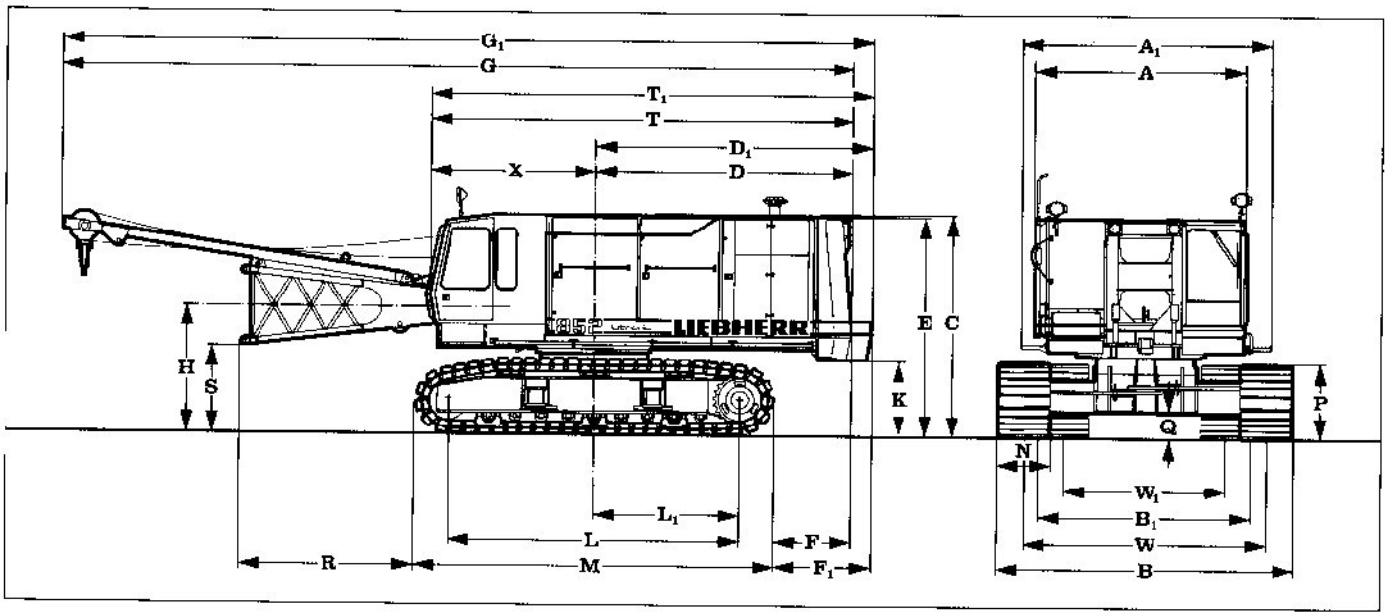
Technical Data
Hydraulic Cable Excavator HS 852 HD Litronic



Basic Machine



Dimensions

		mm
A	Width of superstructure	3000/3300
A_1	Width of superstructure with walk way	3840
C	Clearance height of basic machine	3530
D	Tail reach	3950
	Tail swing radius	4020
D_1	Tail reach with add. counterweight of 4.2 mt	4310
	Tail swing radius with add. counterweight of 4.2 mt	4380
E	Height over counterweight	3450
F	Distance between rear end of crawler and outside of counterweight	1140
F_1	Distance between rear end of crawler and outside of add. counterweight	1520
G	Overall length of superstructure with lowered A-frame	12250
G_1	Overall length of superstructure with lowered A-frame and add. counterweight	12640
H	Ground clearance of boom foot pivot	2007
K	Clearance under superstructure to ground level	1180
L	Wheel base (center idler to center tumbler)	4480
L_1	Distance from center of rotation to center of tumbler	2240
M	Length of crawlers	5580
P	Height of crawlers	1195
Q	Ground clearance of crawler	450
R	Distance of horizontal boom foot to crawler	2670
S	Ground clearance of horizontal boom foot	1387

		mm
T	Length of basic machine	6740
T_1	Length of basic machine with 17.5 mt counterweight	7100
X	Distance from centre of rotation to end of cab	2625

N	Width of track shoes	700	800	900	1000
W_1	Track width retracted	2600	2600	2800	2800
W	Track width extended	3700	3700	3700	3700
B_1	Crawler width retracted	3400	3400	3700	3800
B	Crawler width extended	4400	4500	4800	4700

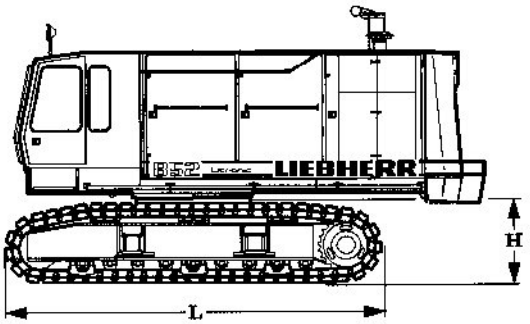
Operating Weight and Ground Pressure

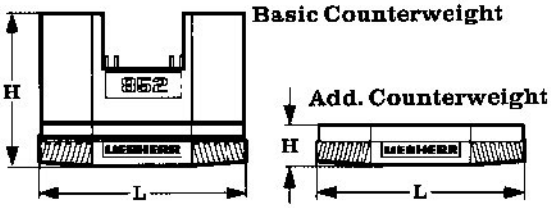
The operating weight includes the basic machine with B7 crawler tracks, 2 main winches and 11 m HD-boom, consisting of A-frame, boom foot (4 m), boom head section (6.5 m), boom head (0.5 m) and 13.3 mt basic counterweight + 4.2 mt add. counterweight.

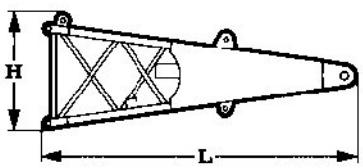
with 700 mm flat track shoes:	69.2 mt – 1.01 kg/cm²
with 800 mm flat track shoes:	69.9 mt – 0.90 kg/cm²
with 900 mm flat track shoes:	70.7 mt – 0.81 kg/cm²
with 1000 mm flat track shoes:	71.4 mt – 0.73 kg/cm²
with 700 mm 3-web shoes:	67.7 mt – 1.00 kg/cm²
with 800 mm 3-web shoes:	69.2 mt – 0.88 kg/cm²
with 900 mm 3-web shoes:	68.8 mt – 0.78 kg/cm²
with 1000 mm 3-web shoes:	69.3 mt – 0.71 kg/cm²

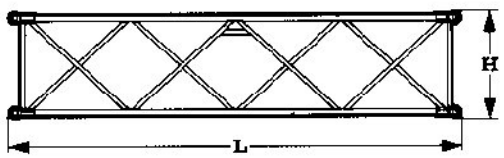
LIEBHERR

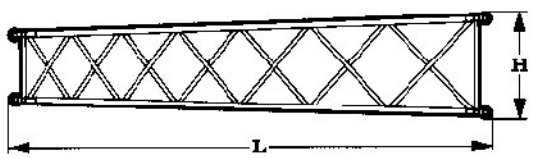
The Better Machine.

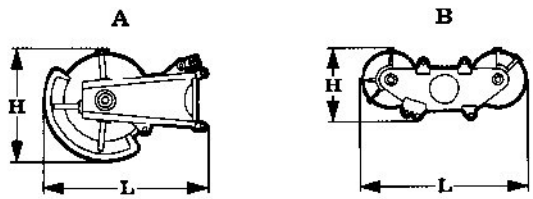












Basic Machine

with V-8 motor, undercarriage, 13.3 mt counterweight and winches 2 x 20 mt.

Shoes	mm	700	800	900	1000
Weight	mt	59.2	59.7	60.3	60.8

Crawler Retracted

Shoes	mm	700	800	900	1000
Width	mm	3400	3400	3700	3800
Weight	kgs	22400	22900	23500	24000
L = Length	mm	5550			
H = Height	mm	1310			

Counterweight		Basic	Additional
Width	mm	540	720
Weight	kgs	13300	4200
L = Length	mm	3000	3000
H = Height	mm	2225	570

A-Frame

Width	mm	500
Weight	kgs	940
L = Length	mm	5490
H = Height	mm	1050

Boom Foot

Width	mm	1240
Weight	kgs	1150
L = Length	mm	4170
H = Height	mm	1340

Tubular Boom Extensions		3 m	6 m
Width	mm	1240	1240
Weight	kgs	500	830
L = Length	mm	3120	6120
H = Height	mm	1260	1260

HD Boom Head Section 6.5 m

Width	mm	1210
Weight	kgs	930
L = Length	mm	6620
H = Height	mm	1260

Boom Head		A	B
Width	mm	830	860
Weight	kgs	1200	1110/1270
L = Length	mm	2320	2390/2480
H = Height	mm	1400	955/1000

Transport Dimensions and Weights

Engine

Watercooled V-6-Liebherr-diesel engine D 9306 TI.
Rating per DIN 6271: 200 kW (272 HP) at 1800 RPM.
Optional:
Watercooled V-8-cylinder-Mercedes-Benz-diesel engine, type OM 442 LA. Rating per DIN 6271: 297 kW (404 HP) at 1900 RPM.
Fuel tank capacity: 920 litres, continuous fuel consumption indication with emergency tank level indicator at approx. 40 l.

Hydraulic System

Four main pumps are driven by a distributor gear box. The axial piston displacement pumps work in a closed circuit supplying oil only when needed. A low loss pressure cut-off takes care of the pumps and saves energy.
Winch 1 and 2: Axial piston displacement pumps (swash plate design) 303 l/min. each.
Swing gear: Axial piston displacement pump (swash plate design) 218 l/min.
Boom hoist: Axial piston displacement pump (swash plate design 218 l/min.
Max. working pressure: 340 bar
Hydraulic oil tank: 325 l capacity.
Optional:
Possibility of re-direction boom pump flow to the swing gear for higher speed.
Extended hydraulic system to drive external equipment with hydrostatic power. Oil tank of 905 l.

Winches 1 and 2

Winch options:	12 mt	16 mt	20 mt
Line pull (nominal load):	120 kN	160 kN	200 kN
Rope diameter:	24 mm	26 mm	30 mm
Rope drum diameter:	500 mm	550 mm	640 mm
Line speed 1st layer m/min.	0 – 114	0 – 96	0 – 74

Planetary gearbox in oil bath. Load support by hydraulic system. Additional security through spring loaded multi disc brake (parking brake). In the freefall mode the clutch and brake function is realized by a separate ample dimensioned multi disc working brake. The hoist and drag winches use variable oil motors controlled by high pressure. This allows the complete utilisation of the installed motorpower with partial loads through speed adaption. In clamshell operation the oilmotors distribute the load on both winches and compensate speed when working in different cable layers.
Optional:
Auxiliary winch: 50 kN (5 mt)
Crane winch: 120 kN (12 mt) – with multi-disc brake but without free fall device.

Swing Drive

Roller bearing slewing ring with external toothing for lower tooth flank pressure. Fixed axial piston oil motor, planetary gearbox, spring loaded and hydraulically released multi disc brake, swing gear pinon.
A precision swing gear allows variable speed control within 3 selectable speed ranges, swing speed 0 – 3.4 RPM; freewheel moment control of superstructure, therefore almost wearless. Moment force sustained by diesel engine.
Optional:
Second swing gear.

Boom Hoist Drive

Twin drum with internally located planetary gearbox, axial piston oil motor, hydraulically released spring-loaded multi-disc brake.
Max. line pull 2 x 50 kN (2 x 5 mt).
Rope diameter 18 mm, line speed 0 – 46 m/min.
Optional:
Pre selection switch for 2 speed ranges.

Crawler

Propulsion through axial piston motor, hydraulically released spring-loaded multi-disc brake, planetary gear box, maintenance free crawler tracks, hydraulic-type chain tensioning device, flat track- or 3-web shoes.
Driving speed 0 – 1.6 km/h.
Optional:
2 speed oil motor for higher driving speeds.

Control System

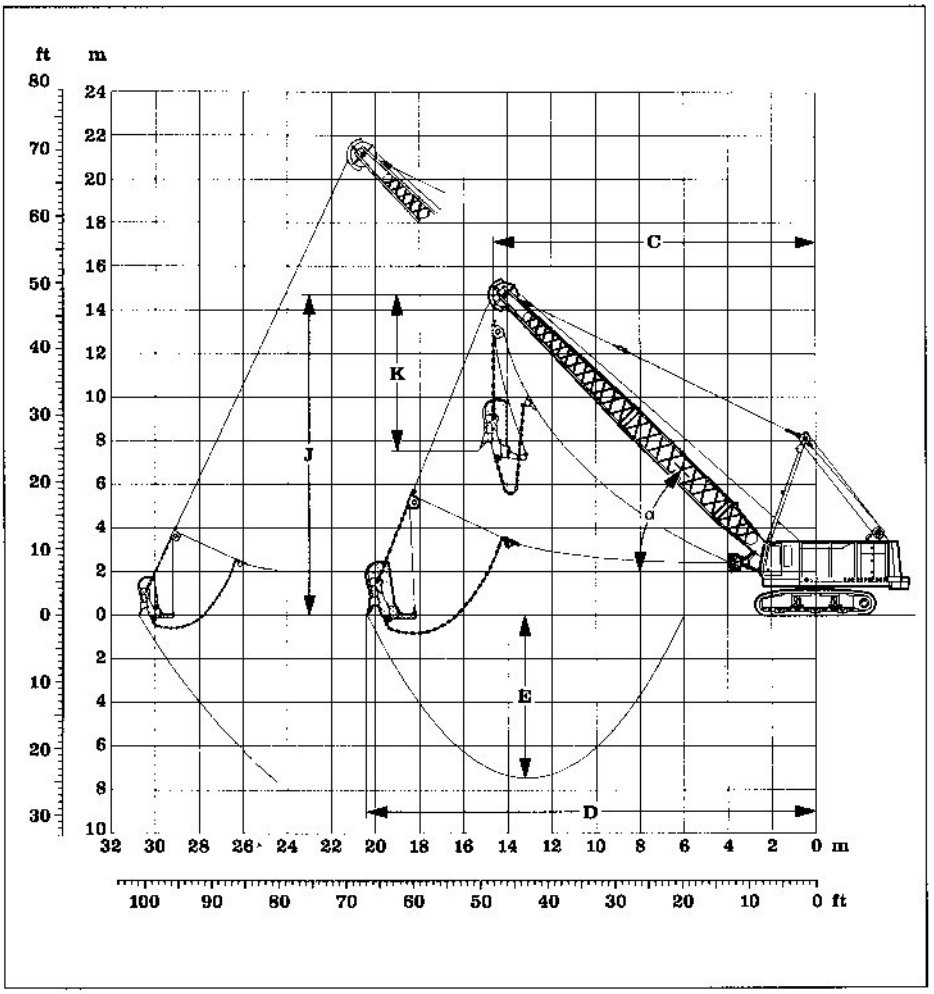
Electric control impulses are prepared for hydraulic control in the programmable electronic part. The specially treated electronic components are designed for the hard environment for this type of machine. Master control lever (cross movement) for swing and boom movements, double T-lever for winch 1 and 2 or crawlers. Electro-hydraulic continuous proportioning control for work and displacement motions.
Dragline only: Interlock control. Cinematic reversal energy for drag winch is transmitted to the hoist winch, when lifting full bucket to dump, thus saving brakes and energy.
Please ask for details of our patented automatic free fall device.

Equipment

- Tubular HD boom up to 50 m.
- Multi sheave HD boom head or dragline boom head.
- Dragline, clamshell or crane equipment.
- Attachments are possible for piling, drilling, oscillating equipment etc.
- For dragline operation a fairlead is attached to the boom foot to minimize cable wear out.

Technical Description

13.3 mt Counterweight + 4.2 mt Add. Counterweight



Scope of Delivery:

- Basic machine with corresponding track shoes
- Second slewing gear with freewheel control
- Add. counterweight of 4.2 mt
- A-frame
- Boom foot
- Boom extension 3 m, tubular steel
- Boom extension 6 m, tubular steel
- Boom head extension 6.5 m
- Boom head
- Stay ropes according to boom length
- Main winches according to specification
- Corresponding fair lead
- Corresponding cables
- Dragline bucket

Digging Diagram:

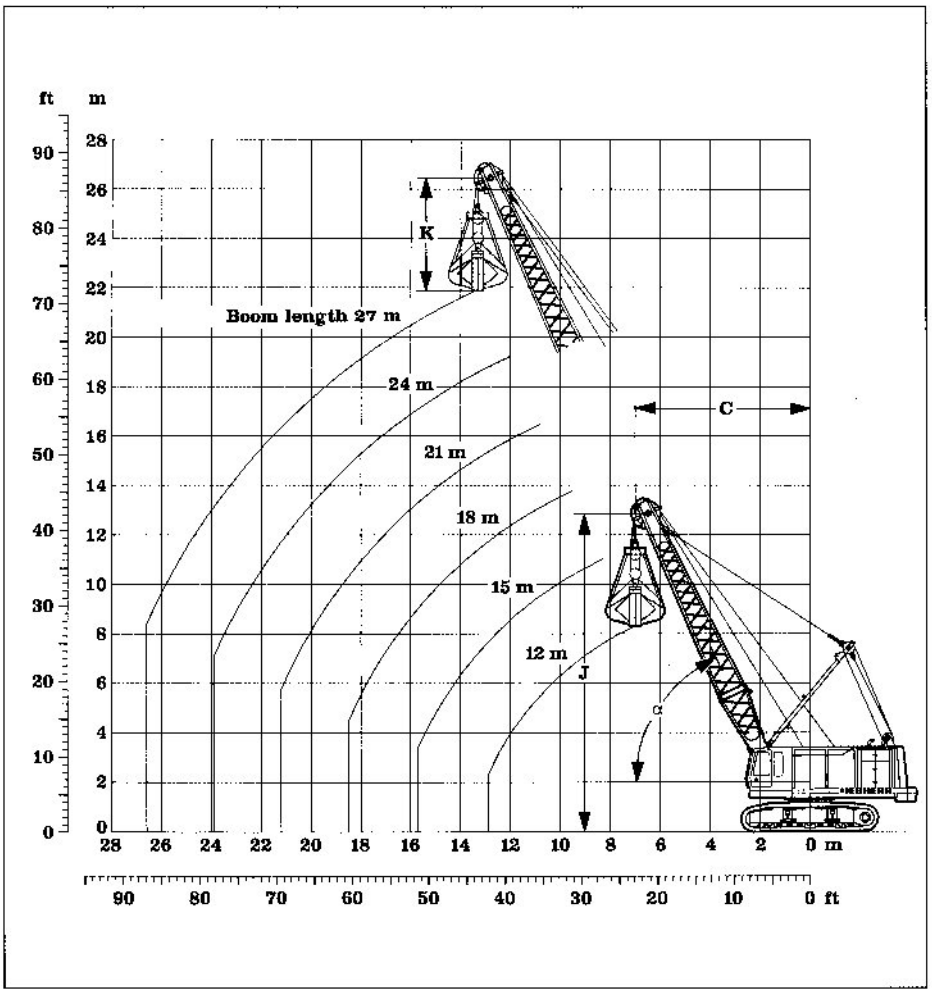
C = Radius / dumping radius
D = Max. digging radius
= approx. C + 1/3 to 1/2 of J - K
E = Digging depth = approx. 40 % al 50 % of C
J = Height of boom head sheave center above ground level
K = Length of dragline bucket (depending on type and capacity of bucket)

Boom length: 12 m to 27 m				Counterweight: 17.5 mt															
	12 m			15 m			18 m			21 m			24 m			27 m			
α°	C	J		C	J		C	J		C	J		C	J		C	J		
	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t	
45	10.4	10.6	16.4	12.5	12.8	12.7	14.6	14.9	10.0	16.7	17.0	7.9	18.8	19.1	6.5	21.0	21.2	5.5	
40	11.1	9.8	15.0	13.4	11.8	11.5	15.7	13.7	8.9	18.0	15.7	7.0	20.3	17.6	5.9	22.5	19.3	5.0	
35	11.7	9.0	13.8	14.2	10.8	10.6	16.6	12.5	8.1	19.1	14.2	6.5	21.5	15.9	5.5	24.0	17.6	4.5	
30	12.3	8.1	13.0	14.9	9.7	9.9	17.5	11.2	7.5	20.1	12.9	6.1	22.6	14.2	5.1	25.2	15.7	4.1	
25	12.7	7.3	13.6	15.5	8.5	9.2	18.2	9.8	7.0	20.9	11.0	5.8	23.6	12.3	5.0	26.3	13.6	4.0	
Content of dragline bucket.																			
cu.yd.	3 1/2			3 1/2			3 1/2			3 1/4			2 1/2			2		
m^3	2.68			2.68			2.68			2.48			1.91			1.58		

Max. lifting capacities in metric tons do not exceed 75 % of tipping load.

Dragline Equipment

13.3 mt Counterweight + 4.2 mt Add. Counterweight



Scope of Delivery:

- Basic machine with corresponding track shoes
- Second swing gear with freewheel control
- Add. counterweight of 4.2 mt
- A-frame
- Boom foot
- Boom extension 3 m, tubular steel
- Boom extension 6 m, tubular steel
- Boom head extension 6.5 m
- Boom head
- Stay ropes according to boom length
- Main winches according to specification
- Corresponding cables
- Clamshell
- 4-rope clamshell on request
- Load moment limiter

Digging Diagram:

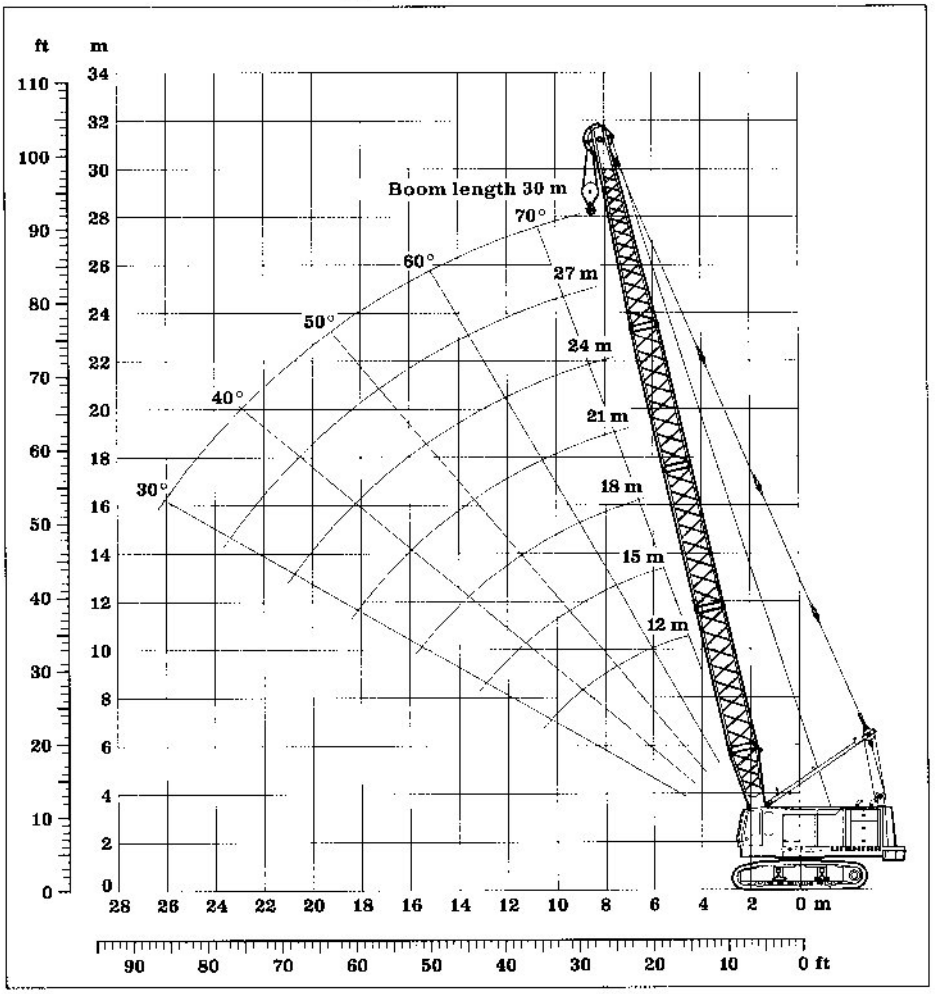
C = Radius / dumping radius
J = Height of boom head sheave center above ground level
K = Length of clamshell (depending on type and capacity of bucket)

Boom length: 12 m to 27 m				Counterweight: 17.5 mt														
	12 m			15 m			18 m			21 m			24 m			27 m		
α°	C	J		C	J		C	J		C	J		C	J		C	J	
	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t	m	m	t
65	6.9	12.9	25.9	8.2	15.7	20.2	9.5	18.5	16.4	10.7	22.2	13.6	12.0	23.9	11.5	13.3	26.6	9.9
60	7.9	12.5	21.4	9.4	15.1	16.7	10.9	17.7	13.5	12.4	20.3	11.2	13.9	22.9	9.4	15.4	25.5	8.0
55	8.7	12.1	18.4	10.5	14.4	14.3	12.2	16.9	11.5	13.9	19.4	9.5	15.6	21.8	7.9	17.4	24.3	6.7
50	9.6	11.5	16.2	11.5	13.6	12.6	13.4	15.9	10.1	15.4	18.2	8.3	17.3	20.5	6.8	19.2	22.8	5.7
45	10.4	10.7	14.6	12.5	12.8	11.3	14.6	14.9	9.0	16.7	17.0	7.3	18.8	19.1	6.0	21.0	21.2	5.0
40	11.1	9.9	13.3	13.4	11.8	10.2	15.7	13.7	8.1	18.0	15.7	6.6	20.3	17.6	5.4	22.5	19.5	4.4
35	11.7	9.1	12.3	14.2	10.8	9.5	16.6	12.5	7.5	19.1	14.2	6.0	21.5	15.9	4.9	24.0	17.6	4.0
30	12.3	8.2	11.6	14.9	9.7	8.8	17.5	11.2	7.0	20.1	12.7	5.6	22.6	14.2	4.5	25.2	15.7	3.6
25	12.7	7.2	10.9	15.5	8.5	8.3	18.2	9.8	6.6	20.9	10.8	5.2	23.6	12.3	4.2	26.3	13.6	3.4

Max. lifting capacities in metric tons do not exceed 66.7 % of the tipping load.
Max. lifting capacities: 14.5 mt with 200 kN winch (20 mt)
11.0 mt with 160 kN winch (16 mt)
9.0 mt with 120 kN winch (12 mt)

Clamshell Equipment

13.3 mt Counterweight + 4.2 mt Add. Counterweight



Scope of Delivery:

- Basic machine with corresponding track shoes
- Add. counterweight of 4.2 mt
- A-frame
- Boom foot
- Boom extension 3 m, tubular steel
- Boom extension 6 m, tubular steel
- Boom head extension 6.5 m
- Boom head
- Stay ropes according to boom length
- Main winches according to specification
- Corresponding hook block
- Load moment limiter

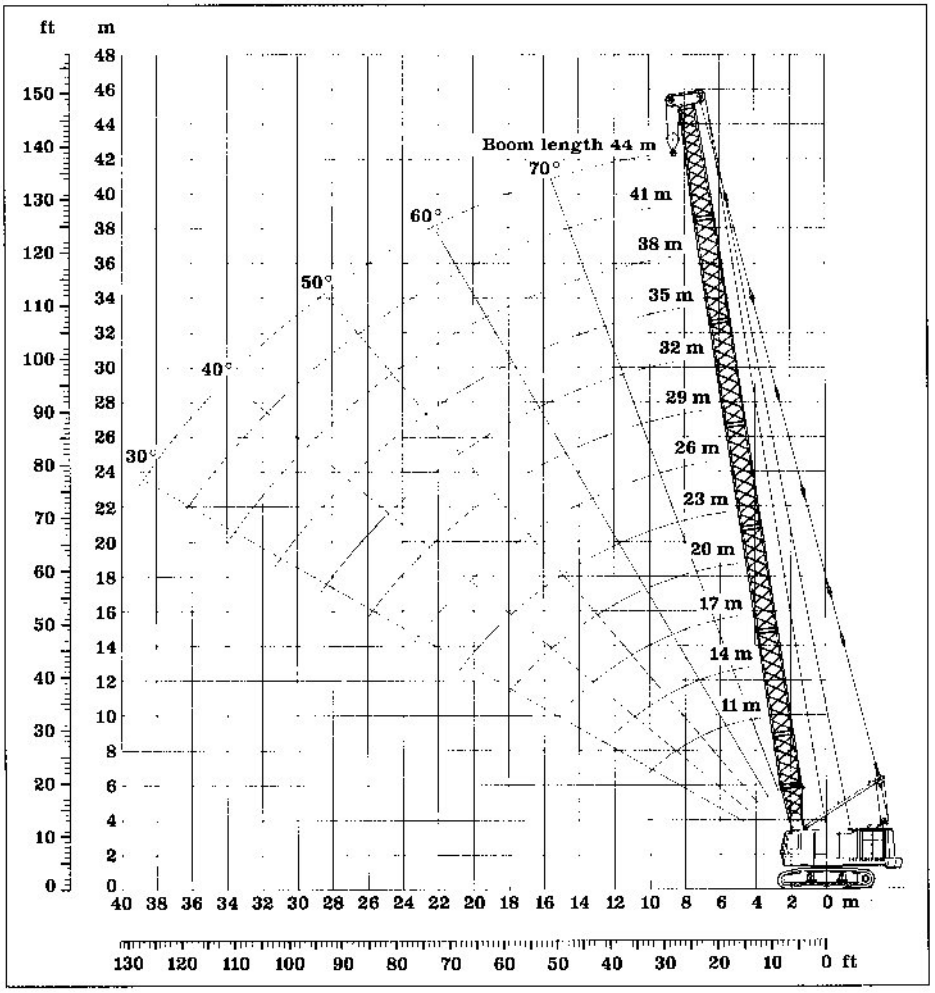
Remarks:

1. The lifting capacities with dragline boom head are valid for wide track.
2. The lifting capacities stated do not exceed 75 % of the tipping load.
3. The lifting capacities are indicated in metric tons with unlimited swing (360 degrees).
4. The weight of the lifting device must be deducted to arrive at the net load lifting capacity.
5. Working radii are measured from center of swing.
6. Machine standing on firm, level and uniform ground.

Radius m	Boom length m 12	15	18	21	24	27	30
4.5	40.0						
5	38.8						
5.5	37.6	33.4					
6	35.7	32.5	29.1				
6.5	31.6	31.5	28.4	25.6			
7	28.3	28.2	27.7	25.1			
7.5	25.6	25.5	25.4	24.5	22.2		
8	23.4	23.3	23.2	23.0	21.8	19.0	
9	19.8	19.7	19.6	19.5	19.3	18.3	16.8
10	17.1	17.1	16.9	16.8	16.7	16.5	16.1
11	15.1	15.0	14.9	14.7	14.6	14.4	14.2
12	13.4	13.3	13.2	13.1	12.9	12.7	12.6
13	12.0	11.9	11.8	11.7	11.5	11.4	11.2
14		10.8	10.7	10.5	10.4	10.2	10.1
15		9.8	9.7	9.6	9.4	9.3	9.1
16		9.0	8.9	8.7	8.6	8.4	8.3
17			8.1	8.0	7.9	7.7	7.5
18			7.5	7.4	7.2	7.1	6.9
19			6.9	6.8	6.7	6.5	6.4
20				6.3	6.2	6.0	5.9
22				5.5	5.3	5.2	5.0
24					4.6	4.5	4.3
26						3.9	3.7
28							3.2
30							2.7

Lifting Capacity with Dragline Boom Head

13.3 mt Counterweight + 4.2 mt Add. Counterweight



Scope of Delivery:

- Basic machine with corresponding track shoes
- Add. counterweight of 4.2 mt
- A-frame
- Boom foot
- Boom extension 3 m, tubular steel
- Boom extension 6 m, tubular steel
- Boom head extension 6.5 m
- Boom head
- Stay ropes according to boom length
- Main winches according to specification
- Corresponding hook block
- Load moment limiter

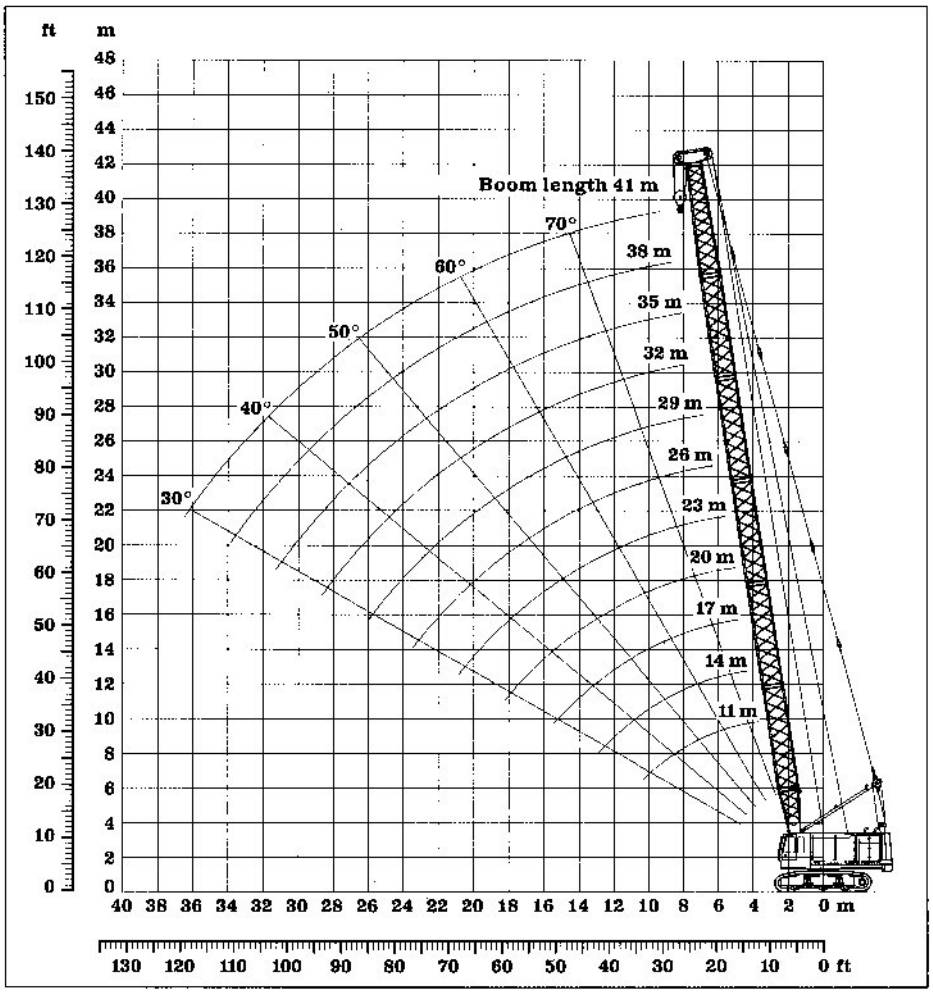
Remarks:

1. The lifting capacities with multi sheave boom head are valid for wide track.
2. The lifting capacities stated do not exceed 75 % of the tipping load.
3. The lifting capacities are indicated in metric tons with unlimited swing (360 degrees).
4. The weight of the lifting device must be deducted to arrive at the net load lifting capacity.
5. Working radii are measured from center of swing.
6. Machine standing on firm, level and uniform ground.
7. Beginning from 44 m boom length an aux. crane will be required to erect the boom.
8. Max. loads without wind load.

Radius m	Boom length m 11	14	17	20	23	26	29	32	35	38	41	44	47	50
4	70.0													
4.5	56.2	56.2												
5	48.1	48.8	48.2											
5.5	41.1	41.1	41.0	40.9										
6	35.8	35.8	35.7	35.6	35.5									
6.5	31.7	31.7	31.6	31.5	31.4	31.3								
7	28.4	28.4	28.3	28.2	28.1	27.9	27.8	27.7						
7.5	25.7	25.6	25.6	25.5	25.3	25.2	25.1	24.9	24.8					
8	23.4	23.4	23.3	23.2	23.1	22.9	22.8	22.7	22.5	20.2				
9	19.8	19.8	19.7	19.6	19.5	19.3	19.2	19.0	18.9	18.1	14.6	10.6	7.9	
10	17.1	17.1	17.0	16.9	16.8	16.6	16.5	16.3	16.2	15.5	13.3	9.6	7.1	5.5
11	15.0	15.0	14.9	14.8	14.6	14.5	14.4	14.2	14.1	13.9	11.3	8.7	6.4	4.9
12	13.2	13.3	13.2	13.1	12.9	12.9	12.7	12.5	12.4	12.2	10.4	7.9	5.8	4.4
13		11.9	11.8	11.7	11.6	11.4	11.3	11.1	11.0	10.8	9.5	7.2	5.3	3.9
14		10.7	10.6	10.5	10.4	10.3	10.1	10.0	9.8	9.6	8.8	6.6	4.9	3.5
15		9.7	9.7	9.5	9.4	9.3	9.1	9.0	8.8	8.7	8.1	6.0	4.4	3.2
16			8.8	8.7	8.6	8.4	8.3	8.1	8.0	7.8	7.4	5.6	4.1	2.8
17			8.1	8.0	7.8	7.7	7.5	7.4	7.2	7.1	6.8	5.2	3.7	2.5
18			7.4	7.3	7.2	7.1	6.9	6.7	6.6	6.4	6.3	4.8	3.4	2.2
19				6.7	6.6	6.5	6.3	6.2	6.0	5.9	5.7	4.4	3.1	2.0
20				6.2	6.1	6.0	5.8	5.7	5.5	5.4	5.2	4.1	2.8	1.7
22					5.2	5.1	5.0	4.8	4.7	4.5	4.3	3.5	2.3	1.3
24					4.5	4.4	4.3	4.1	3.9	3.7	3.5	3.0	1.9	0.9
26						3.8	3.6	3.5	3.3	3.1	2.9	2.6	1.5	0.6
28							3.1	2.9	2.7	2.5	2.3	2.1	1.2	0.4
30							2.6	2.4	2.3	2.1	1.9	1.7	0.9	
32								2.0	1.9	1.7	1.5	1.3	0.6	
34									1.5	1.3	1.1	0.9	0.4	

Lifting Capacity with Multi Sheave HD Boom Head

13.3 mt Counterweight + 4.2 mt + 7 mt Add. Counterweight



Scope of Delivery:

- Basic machine with corresponding track shoes
- Add. counterweight of 4.2 mt
- A-frame
- Boom foot
- Boom extension 3 m, tubular steel
- Boom extension 6 m, tubular steel
- Boom head extension 6.5 m
- Boom head
- Stay ropes according to boom length
- Main winches according to specification
- Corresponding hook block
- Load moment limiter

Remarks:

1. The lifting capacities with multi sheave boom head are valid for wide track.
2. The lifting capacities stated do not exceed 75 % of the tipping load.
3. The lifting capacities are indicated in metric tons with unlimited swing (360 degrees).
4. The weight of the lifting device must be deducted to arrive at the net load lifting capacity.
5. Working radii are measured from center of swing.
6. Machine standing on firm, level and uniform ground.
7. Beginning from 44 m boom length an aux. crane will be required to erect the boom.
8. Max. loads without wind load.

Radius	Boom length m													
m	11	14	17	20	23	26	29	32	35	38	41	44	47	50
4	80.0													
4.5	62.6	56.5												
5	55.3	54.3	50.0											
5.5	49.9	49.9	48.3	44.6										
6	43.5	43.5	43.4	43.2	39.2									
6.5	38.6	38.5	38.5	38.4	38.0	35.3								
7	34.6	34.5	34.5	34.4	34.2	34.1	31.9							
7.5	31.3	31.3	31.2	31.1	30.9	30.8	30.7	28.8	26.1					
8	28.6	28.5	28.4	28.3	28.2	28.1	27.9	27.8	24.9	20.2				
9	24.2	24.2	24.1	24.0	23.9	23.8	23.6	23.5	22.8	18.1	14.6	10.6		
10	21.0	21.0	20.9	20.8	20.6	20.5	20.4	20.2	19.4	15.5	13.3	9.6	7.1	5.5
11	18.4	18.4	18.3	18.2	18.1	17.9	17.8	17.7	17.5	14.1	11.3	8.7	6.4	4.9
12	16.4	16.4	16.3	16.2	16.1	15.9	15.8	15.6	15.5	13.0	10.4	7.9	5.8	4.4
13		14.7	14.6	14.5	14.4	14.2	14.1	13.9	13.8	12.1	9.5	7.2	5.3	3.9
14		13.3	13.2	13.1	13.0	12.8	12.7	12.6	12.4	11.2	8.8	6.6	4.9	3.5
15		12.1	12.1	11.9	11.8	11.7	11.5	11.4	11.2	10.4	8.1	6.0	4.4	3.2
16			11.0	10.9	10.8	10.7	10.5	10.3	10.2	9.7	7.4	5.6	4.1	2.8
17			10.1	10.0	9.9	9.8	9.6	9.5	9.3	9.0	6.8	5.2	3.7	2.5
18			9.3	9.3	9.1	9.0	8.8	8.7	8.5	8.4	6.3	4.8	3.4	2.2
19				8.6	8.5	8.3	8.2	8.0	7.8	7.7	5.9	4.4	3.1	2.0
20				8.0	7.8	7.7	7.6	7.4	7.2	7.1	5.6	4.1	2.8	1.7
22					6.8	6.7	6.5	6.4	6.2	6.0	4.9	3.5	2.3	1.3
24					5.9	5.8	5.7	5.5	5.4	5.2	4.3	3.0	1.9	0.9
26						5.1	5.0	4.8	4.7	4.5	3.8	2.6	1.5	0.6
28							4.3	4.2	4.0	3.8	3.3	2.1	1.2	0.4
30							3.8	3.6	3.5	3.3	2.9	1.8	0.9	
32								3.1	3.0	2.8	2.5	1.5	0.6	
34										2.4	2.1	1.2	0.4	
36											1.8	0.9		

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