

Technical Data

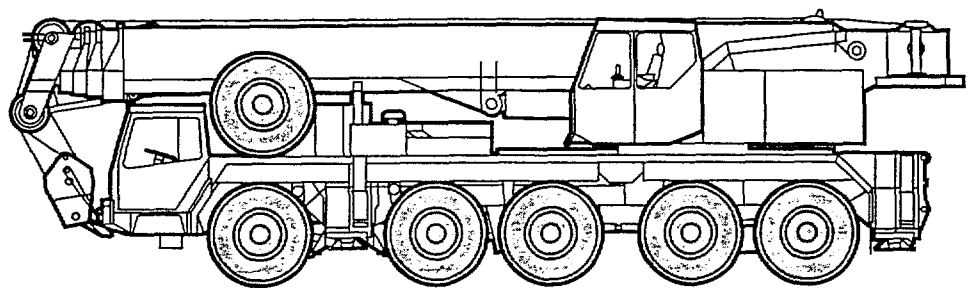
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Caractéristiques techniques

LTM 1090

Mobile Crane

Grue automotrice



LIEBHERR

Lifting capacities at telescopic boom. Forces de levage à la flèche télescopique.



39 ft - 148 ft



360°



33000 lbs

85%

ft	39 ft		64 ft	69 ft	94 ft	115 ft		140 ft	148 ft	ft
10	219	208								10
11	209	199								11
12	199	190								12
13	189	182								13
14	177	171								14
15	166	160								15
16	157	151								16
17	148	143	120							17
18	141	136	117							18
20	126	122	110	70.5						20
22	115	111	102	70.5						22
24	105	101	93	70.5	68	54.6	41.2			24
26	95.5	93	82	70.5	68	54.6	41.2			26
28	85.5	84	74	70	65.5	53.9	40.6	37.6	31.5	28
30			66	68.5	62.5	52.9	39.7	37.6	31.5	30
32			60	66	58	51	38.4	37.6	31.5	32
34			55	62.5	53.9	48.8	37.1	37	31.4	34
36			50.7	58.5	50	46.4	35.9	35.9	31.1	36
38			46.3	54.5	46.1	44.1	34.8	34.8	30.8	38
40			42.4	50.8	42.6	41.6	33.6	33.8	30.3	40
45			35.1	43.2	35.8	35.3	31	30.9	28.3	45
50			28.9	36.8	30.4	30.2	28.6	28.4	26.4	50
55				31.5	25.9	25.9	26.2	25.5	24.4	55
60					22.1	22.3	23.9	22.3	22.2	60
65					19	19.3	21.8	19.4	19.4	65
70					16.4	16.8	20	17	17	70
75					14	14.7	18.3	15	14.9	75
80						12.7	16.8	13.1	13.1	80
85						10.9	15.1	11.5	11.5	85
90						9.4	13.5	10.1	10.1	90
95						8	12	8.7	8.7	95
100							10.8	7.4	7.5	100
105								6.4	6.5	105
110								5.6	5.6	110
115								4.8	4.8	115
120								4	4.1	120
125									3.3	125
130									2.6	130
I	0		93	0	93	93	0	93	100	I
II	0		0	37	37	62	93	93	100	II
III	0		0	37	37	62	93	93	100	III
IV	0		0	37	37	62	93	93	100	IV

" over rear / en arrière

TAB 70100

Remarks referring to load charts.

1. The tabulated lifting capacities do not exceed 85 % of the tipping load.
2. The crane's structural steelwork is in accordance with DIN 15018, part 3. Design and construction of the crane comply with DIN 15018, part 2, and with F. E. M. regulations.
3. The 85 % overturning limit values take into account wind force 5 = wind speed 20 mph.
4. Lifting capacities are given in kips.
5. The weight of the hook blocks and hooks must be deducted from the lifting capacities.
6. Working radii are measured from the slewing centreline.
7. The lifting capacities given for the telescopic boom only apply if the folding jib is taken off.
8. Lifting capacities are subject to modifications.

Remarques relatives aux tableaux des charges.

1. Les forces de levage indiquées ne dépassent 85 % de la charge de basculement.
2. La norme DIN 15018, 3ème partie est appliquée pour les charpentes. La construction de la grue est réalisée conformément à la norme DIN 15018, 2ème partie, et aux règles de la F. E. M.
3. A 85 % de la charge de basculement, il a été tenu compte d'un vent de force 5 = vitesse de vent 20 mph.
4. Les forces de levage sont données en kips.
5. Le poids des moufles et crochets doit être soustrait des charges indiquées.
6. Les portées sont calculées à partir de l'axe de rotation.
7. Les forces indiquées pour la flèche télescopique s'entendent fléchette déployable déposée.
8. Les forces de levage sont modifiables sans préavis.

Lifting capacities are given
in kips (1000 lbs)



39 ft - 148 ft



360°



14300 lbs

75%

ft	39 ft	64 ft	69 ft	94 ft	115 ft		140 ft	148 ft	ft
10	208								10
11	197								11
12	186								12
13	173								13
14	162								14
15	151								15
16	142								16
17	135	117							17
18	128	110							18
20	114	96.5	70.5						20
22	103	83.5	70.5						22
24	91.5	73	70.5	65.5	54.6	41.2			24
26	80.5	64	70.5	60.5	54.6	41.2			26
28	71.5	57	65.5	55	51.5	40.6	34	27.9	28
30		50.7	59.9	49.6	47.8	39.7	34	27.9	30
32		45.5	54.8	45.1	43.6	38.4	34	27.9	32
34		41.1	50.4	41.1	40	37.1	33.3	27.9	34
36		37.3	46.5	37.7	36.8	35.9	32.3	27.9	36
38		33.4	42.7	34.3	33.6	34.8	31.3	27.9	38
40		30	39.2	31.2	30.7	33.5	29.9	27.5	40
45		23.7	32.6	25.3	25.3	29.8	24.9	24.4	45
50		18.7	27.5	20.8	21	25.8	20.9	20.8	50
55			23.1	17.2	17.5	22.1	17.6	17.5	55
60				14.1	14.6	19.1	14.9	14.8	60
65				11.7	12.2	16.7	12.6	12.6	65
70				9.6	10.3	14.6	10.7	10.7	70
75				7.7	8.5	12.8	9	9.1	75
80					6.9	11.1	7.6	7.6	80
85					5.6	9.6	6.3	6.3	85
90					4.5	8.3	5.2	5.2	90
95					3.5	7.3	4.2	4.3	95
100						6.3	3.3	3.4	100
I	0	93	0	93	93	0	93	100	I
II	0	0	37	37	62	93	93	100	II
III	0	0	37	37	62	93	93	100	III
% IV	0	0	37	37	62	93	93	100	IV

TAB 70101

Les forces de levage sont données en kips (1.000 lbs).



39 ft - 69 ft



0°



33000 lbs / 14300 lbs

75%

 ft	39 ft		69 ft		 ft
	33000 lbs	14300 lbs	33000 lbs	14300 lbs	
14	63.5	54.7			14
15	60.5	50.2			15
16	57.5	46.1			16
17	54.1	42.4	50.8	38.8	17
18	50.3	39.1	48.1	36.6	18
20	42.9	32.7	42.8	32.3	20
22	37.4	28.3	38.6	28.9	22
24	32.7	24.4	34.9	26	24
26	28.7	21.2	31.7	23.3	26
28	25.6	18.7	28.6	21.1	28
30			25.7	19.1	30
32			23.3	17.3	32
34			21.4	15.7	34
36			19.6	14.3	36
38			17.9	12.9	38
40			16.4	11.6	40
45			13.4	8.9	45
50			11	7	50
55				5.5	55
 %	I	0	0		I
	II	0	37		II
	III	0	37		III
	IV	0	37		IV

0° = over rear / sur arrière

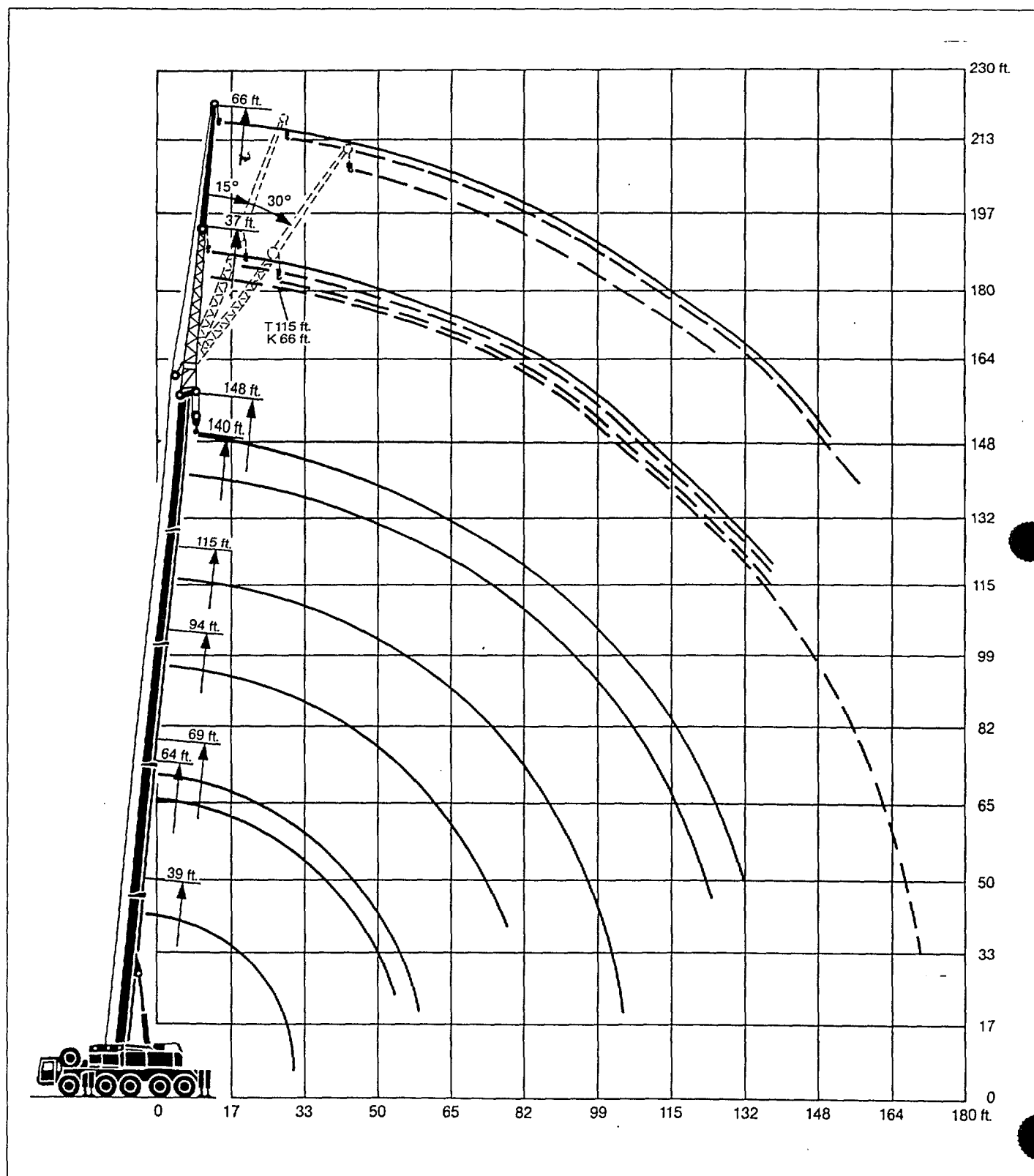
TAB 70094 / 70095

Max. speed for travel with suspended load in longitudinal direction of crane: 1 mph (see operating instructions).

Vitesse de déplacement maxi. pour la translation avec charge en sens longitudinal par rapport à la grue: 1 mph (voir manuel d'instructions).

Lifting heights. Hauteurs de levage.

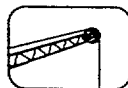
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Lifting capacities at the folding jib. Forces de levage à la fléchette pliante.



115 ft - 148 ft



37 ft - 66 ft



360°



33000 lbs

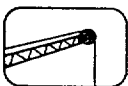
85%

	125 ft			140 ft			148 ft			115 ft			140 ft			148 ft			
	37 ft			37 ft			37 ft			66 ft			66 ft			66 ft			
	0°	15°	30°	0°	15°	30°	0°	15°	30°	0°	15°	30°	0°	15°	30°	0°	15°	30°	
30	24.3	19.3																	30
32	24.3	18.9																	32
34	24.2	18.4		19.8	14.8		15.8	12.2		11.6									34
36	24.1	18		19.7	14.5		15.8	11.9		11.5									36
38	24.1	17.5		19.5	14.1		15.8	11.6		11.5									38
40	24	17.1	11.1	19.4	13.7	8.7	15.7	11.3	7.5	11.4	10.4		10.7			9.7			40
45	23.6	16	10.5	19	13	8.3	15.6	10.8	7.1	11.2	10		10.5			9.5			45
50	22.5	15	10.1	18.5	12.1	7.9	15.2	10.4	6.7	11	9.6		10.3	8.9		9.3	7.5		50
55	21.2	14.1	9.8	17.7	11.3	7.5	14.7	9.9	6.4	10.8	9.3	7.3	10.1	8.5		9.1	7.1		55
60	19.9	13.2	9.4	16.8	10.5	7	13.9	9.4	6	10.6	8.9	7	9.9	8.2	6.2	8.9	6.8	4.6	60
65	18.6	12.2	9	15.9	9.8	6.6	13.2	8.8	5.6	10.5	8.8	6.8	9.7	8	5.9	8.8	6.6	4.4	65
70	17.1	11.5	8.5	14.8	9.2	6.4	12.5	8.2	5.3	10.3	8.4	6.6	9.5	7.7	5.5	8.6	6.4	4.2	70
75	15.4	10.8	8.1	13.8	8.8	6.2	11.7	7.8	4.9	10	8	6.4	9.4	7.3	5.2	8.3	6.1	4	75
80	13.6	10.3	8	12.8	8.4	6	11	7.4	4.6	9.6	7.7	6.3	9.2	6.9	5.1	7.9	5.8	3.8	80
85	12	9.7	7.8	11.7	7.8	5.8	10.5	6.8	4.4	9.2	7.3	6.1	9	6.8	4.9	7.5	5.6	3.7	85
90	10.6	9.4	7.4	10.4	7.4	5.7	9.9	6.4	4	8.9	6.9	5.9	8.6	6.4	4.7	7.2	5.2	3.5	90
95	9.4	8.9	7.2	9.2	7	5.5	9.1	6.1	3.7	8.5	6.7	5.7	8.3	6.2	4.5	6.9	4.9	3.3	95
100	8.2	8.3	7	8	6.7	5.3	8.1	5.7	3.3	8.1	6.5	5.5	7.9	6	4.3	6.7	4.6	3.1	100
105	7.1	7.7	6.8	6.9	6.3	5.1	7	5.3	3.2	7.8	6.3	5.3	7.5	5.6	4.1	6.3	4.4	2.9	105
110	6.2	6.7	6.6	6.1	5.9	4.9	6.1	5	3	7.4	6.1	5.2	7	5.4	3.9	6.1	4	2.5	110
115	5.4	5.9	6.1	5.3	5.6	4.7	5.3	4.6	2.8	7	5.9	5	6.2	5.1	3.8	5.8	3.8	2.3	115
120	4.7	5.1	5.4	4.5	5	4.5	4.6	4.2	2.6	6.7	5.8	4.8	5.5	4.8	3.6	5.2	3.6	2.1	120
125	4	4.4	4.7	3.9	4.3	4.3	3.9	3.9	2.4	6.5	5.6	4.6	4.8	4.6	3.4	4.6	3.4		125
130	3.4	3.8	4	3.3	3.7	3.9	3.3	3.5	2.2	6.2	5.4	4.4	4.2	4.4	3.2	3.9	3.2		130
135	2.7	3.1	3.3	2.7	3.1	3.4	2.8	3.1	2	5.9	5.2	4.2	3.6	4.2	3	3.4	3		135
140		2.4			2.5	2.8	2.2	2.6		5.6	5	4	3.1	3.8	2.8	2.9	2.8		140
145										5.1	4.8	3.9	2.6	3.3	2.6	2.4	2.4		145
150										4.7	4.6	3.7	2.2	2.8	2.5	2	2.2		150
155										4.2	4.4	3.5		2.3	2.3		2		155
160										3.8	4.1			2.1					160

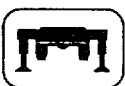
TAB 70102 / 70104 / 70106



115 ft - 148 ft



37 ft - 66 ft



360°



14300 lbs

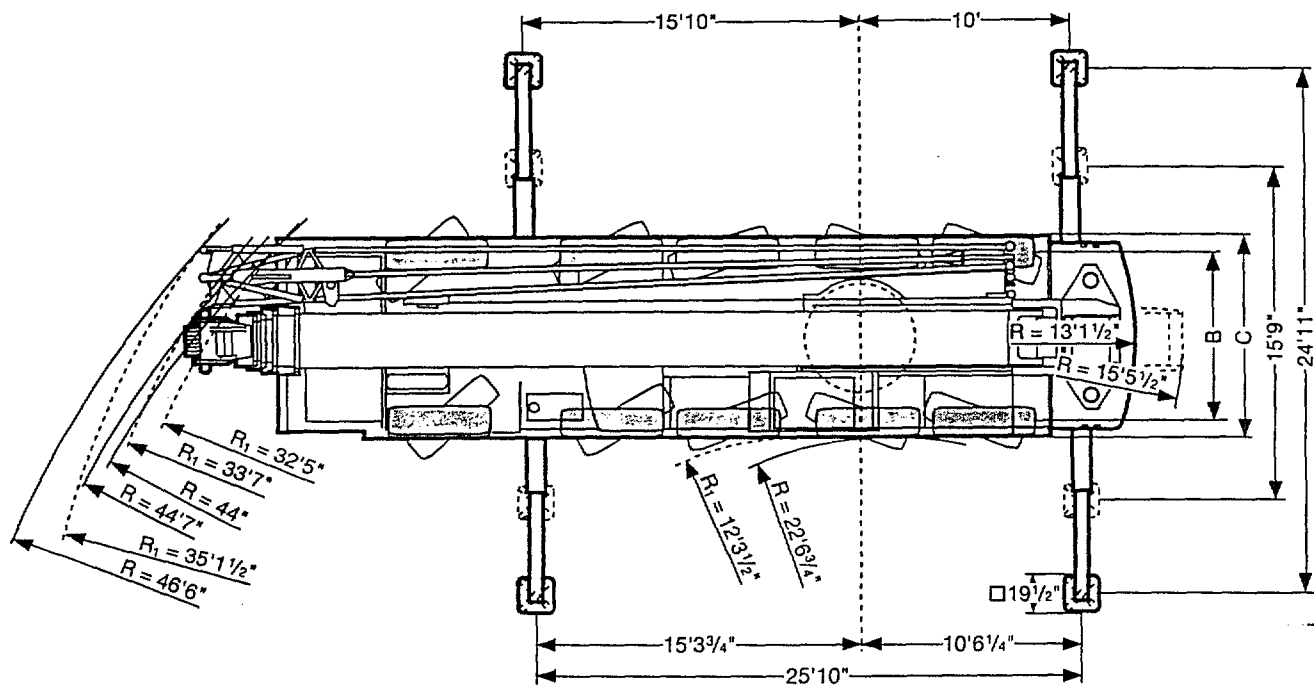
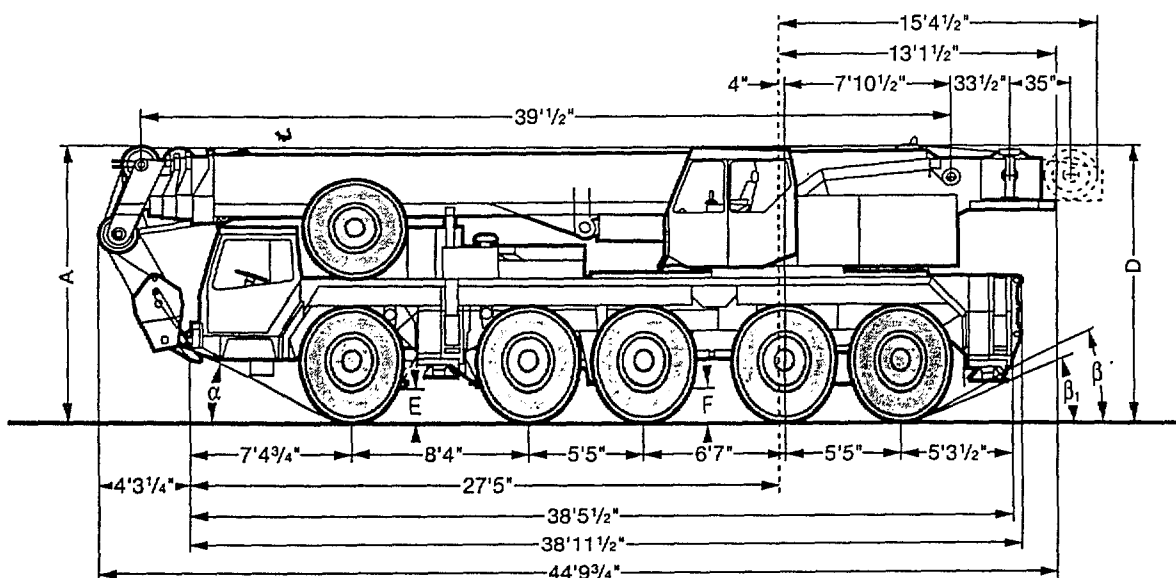
85%

	125 ft			140 ft			148 ft			115 ft			140 ft			148 ft			
	37 ft			37 ft			37 ft			66 ft			66 ft			66 ft			
	0°	15°	30°	0°	15°	30°	0°	15°	30°	0°	15°	30°	0°	15°	30°	0°	15°	30°	
30	23	19.3																	30
32	23	18.9																	32
34	23	18.4		19.4	14.8		15	12.2		10.7									34
36	23	18		19.4	14.5		15	11.9		10.7									36
38	23	17.5		19.4	14.1		15	11.6		10.7									38
40	23	17.1	11.1	19.4	13.7	8.7	15	11.3	7.5	10.7	10.4		9.7			8.5			40
45	23	16	10.5	19	13	8.3	15	10.8	7.1	10.7	10		9.7			8.5			45
50	20.7	15	10.1	18.5	12.1	7.9	15	10.4	6.7	10.7	9.6		9.7	8.9		8.5	7.5		50
55	17.9	14.1	9.8	17.1	11.3	7.5	14.7	9.9	6.4	10.7	9.3	7.3	9.7	8.5		8.5	7.1		55
60	15.3	13.2	9.4	14.8	10.5	7	13.8	9.4	6	10.6	8.9	7	9.7	8.2	6.2	8.5	6.8	4.6	60
65	13.1	11.5	9	12.7	9.8	6.6	12.7	8.8	5.6	10.5	8.8	6.8	9.7	8	5.9	8.5	6.6	4.4	65
70	11.2	10.5	8.5	10.9	9.2	6.4	11	8.2	5.3	10.3	8.4	6.6	9.5	7.7	5.5	8.5	6.4	4.2	70
75	9.6	9.2	8.1	9.3	8.8	6.2	9.4	7.8	4.9	10	8	6.4	9.4	7.3	5.2	8.3	6.1	4	75
80	8.2	7.8	8	7.9	8.3	6	8	7.4	4.6	9.6	7.7	6.3	8.9	6.9	5.1	7.9	5.8	3.8	80
85	6.9	6.7	7.8	6.7	7.6	5.8	6.8	6.8	4.4	9.2	7.3	6.1	7.7	6.8	4.9	7.4	5.6	3.7	85
90	5.8	5.6	7.2	5.6	6.5	5.7	5.7	6.4	4	8.9	6.9	5.9	6.7	6.4	4.7	6.4	5.2	3.5	90
95	4.8	4.7	6.3	4.7	5.5	5.5	4.8	5.6	3.7	8.3	6.7	5.7	5.7	6.2	4.5	5.4	4.9	3.3	95
100	3.9	3.8	5.2	3.8	4.5	5.1	3.9	4.7	3.3	7.6	6.5	5.5	4.9	5.9	4.3	4.6	4.6	3.1	100
105	3.1	3	4.3	3	3.7	4.3	3.1	3.8	3.2	6.8	6.3	5.3	4.1	5.4	4.1	3.8	4.4	2.9	105
110	2.4	2.3	3.5	2.3	2.9	3.5	2.4	3.1	3	6.1	6.1	5.2	3.4	4.6	3.9	3.1	4	2.5	110
115			2.7		2.3	2.7		2.4	2.6	5.4	5.9	5	2.7	3.8	3.8	2.4	3.5	2.3	115
120										4.8	5.5	4.8		3.2	3.6		2.9	2.1	120
125										4.2	4.8	4.6		2.5	3.4				125
130										3.7	4.3	4.4		2	2.7				130
135										3.2	3.8	4.1			2.1				135
140										2.8	3.3	3.7							140
145										2.4	2.8	3.2							145
150										2	2.4	2.7							150
155												2.1							155

TAB 70103 / 70105 / 70107

Dimensions. Encombrement.

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R₁ = All-wheel steering
Direction toutes roues

	A	A g***	B	C	D	E	F	α	β	β ₁
16.00 R 25	12'9 1/2"	12'3 1/2"	8'3/4"	9'6"	12'4 1/2"	14 1/2"	17"	24°	24°	19°

* lowered / abaissé

Weights. Poids.

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Axle Essieu	1	2	3	4	5	Total weight Poids total
lbs	26500	26500	26500	26500	26500	132500

with 14300 lbs counterweight and folding jib / avec contrepoids 14300 lbs et flèche pliante



Load (kips) Forces de levage (kips)	No. of sheaves Poulies	No. of lines Brins	Weight lbs Poids lbs
198.4	7	14	2205
154.3	5	10	1764
110.2	3	7	992
48.5	1	3	728
16.53	-	1	419

Working speeds. Vitesses.



	1	2	3	4	5	R	
mph	8	13	19.9	29.8	42.9	8.7	26 %
mph	5	7.5	11.8	16.8	23	5	50 %
	16.00 R 25						



Drive Mécanismes	infinitely variable en continu	Rope diameter / Rope length Diamètre du câble / Longueur du câble	Max. single line pull Effort au brin maxi.
	0 - 375 ft/min single line ft/min au brin simple	1 3/8" / 820'	16615 lbs
	0 - 375 ft/min single line ft/min au brin simple	1 3/8" / 820'	16615 lbs
	0 - 2.0 rpm		
	approx. 25 seconds - 40 seconds to reach 83° boom angle env. 25 s - 40 s jusqu'à 83°		
	approx. 120 seconds for boom extension from 39 ft - 148 ft env. 120 s pour passer de 39 ft - 148 ft		

Truck chassis.

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Frame:	Liebherr designed and manufactured, box type, torsion resistant, all-welded construction made of high-tensile structural steel.
Outriggers:	4 sliding beams with hydraulic extension cylinders and hydraulic support pad jacks. Front outriggers mounted between axles 1 and 2, rear outriggers at rear of truck chassis.
Engine:	Diesel, 8 cylinder, watercooled, make Daimler-Benz, type OM 442 LA, output 320 kW DIN (435 HP) at 2100 rpm, max. torque 1300 lbs-ft at 1100 - 1600 rpm. Fuel tank capacity: 132 gallons.
Transmission:	Allison type CLBT 755 automatic transmission with torque converter and hydrodynamic retarder brake. 5 forward speeds, 1 reverse. Transfer box with front wheel drive engagement and off-road range.
Axles:	Heavy duty crane truck axles, all 5 axles sprung. Axles 1, 2 and 3 steered. Axles 1, 4 and 5 are planetary axles with lockable transverse differentials.
Suspension:	All axles are hydropneumatically sprung with automatic levelling. Load equalization between axles 1 and 2, single axle 3 and axles 4 and 5. Suspension hydraulically locked.
Tyres:	10 tyres, all axles with single tyres. Tyre size: 16.00 R 25.
Steering:	ZF semi-unitary hydraulic power steering, dual circuit system, with hydraulic servo mechanism and auxiliary pump circuit.
Brakes:	Service brake: servo assisted air brakes acting on all wheels, dual circuit system. Hand brake: spring-action, acting on all wheels of axles 3 to 5.
Driver's cab:	Large-area, all-steel cab with resilient mountings, safety glass windows and full range of instruments.
Electrical system:	24 Volts DC, 2 batteries, lighting to German road vehicle regulations.

Crane superstructure.

Frame:	Liebherr-made, torsion-resistant, welded construction made of high-tensile structural steel. Connection to truck chassis by triple roller slewing ring, designed for 360° continuous rotation.
Crane engine:	Diesel, 6 cylinder, watercooled, make Daimler-Benz, type OM 366 A, output 115 kW DIN (156 HP) at 2100 rpm, max. torque 413 lbs-ft at 1400 rpm. Fuel tank capacity: 74 gallons.
Crane drive:	Diesel-hydraulic, with 1 duplex axial-piston pump with automatic output control 1 duplex gear-type pump, regulated open hydraulic circuits.
Crane control:	By self-centering control lever, movable in 4 directions (cross-control arrangement).
Main winch:	Axial piston motor, full hydraulic power up and down. Hoist drum with integrated planetary gear and spring loaded brake.
Luffing gear:	Hydraulic cylinder with integral safety locking valves.
Slewing gear:	Planetary gear with flange connected axial piston motor and spring loaded brake.
Crane cab:	All-steel construction fully galvanized, safety glazing, controls and instruments.
Safety devices:	LICCON overload safety indicator, hoist limit switch, safety valves to protect hydraulic system against pipe and hose fracture.
Telescopic boom:	1 boom pivot section and 4 telescopic sections; can be extended hydraulically under partial load. Telescopic section 1 can be hydraulically extended independently, telescopic sections 2, 3 and 4 can be extended with synchronised action. Boom length: 39 ft - 148 ft.
Electrical system:	24 Volts DC, 2 batteries.

Additional equipment.

Folding jib:	37 ft - 66 ft long, for mounting as extension on telescopic boom at 0°, 15° or 30°.
Hoisting gear 2:	For two-hook operation.
Drive 10 x 8:	Axle 2 additionally driven.
All-wheel steering:	Additional steering of axles 4 and 5.
Driving from crane cab:	Driving and outrigger control also from crane cab.

Other items of equipment available on request.