

Mobile Crane LTM 1020.

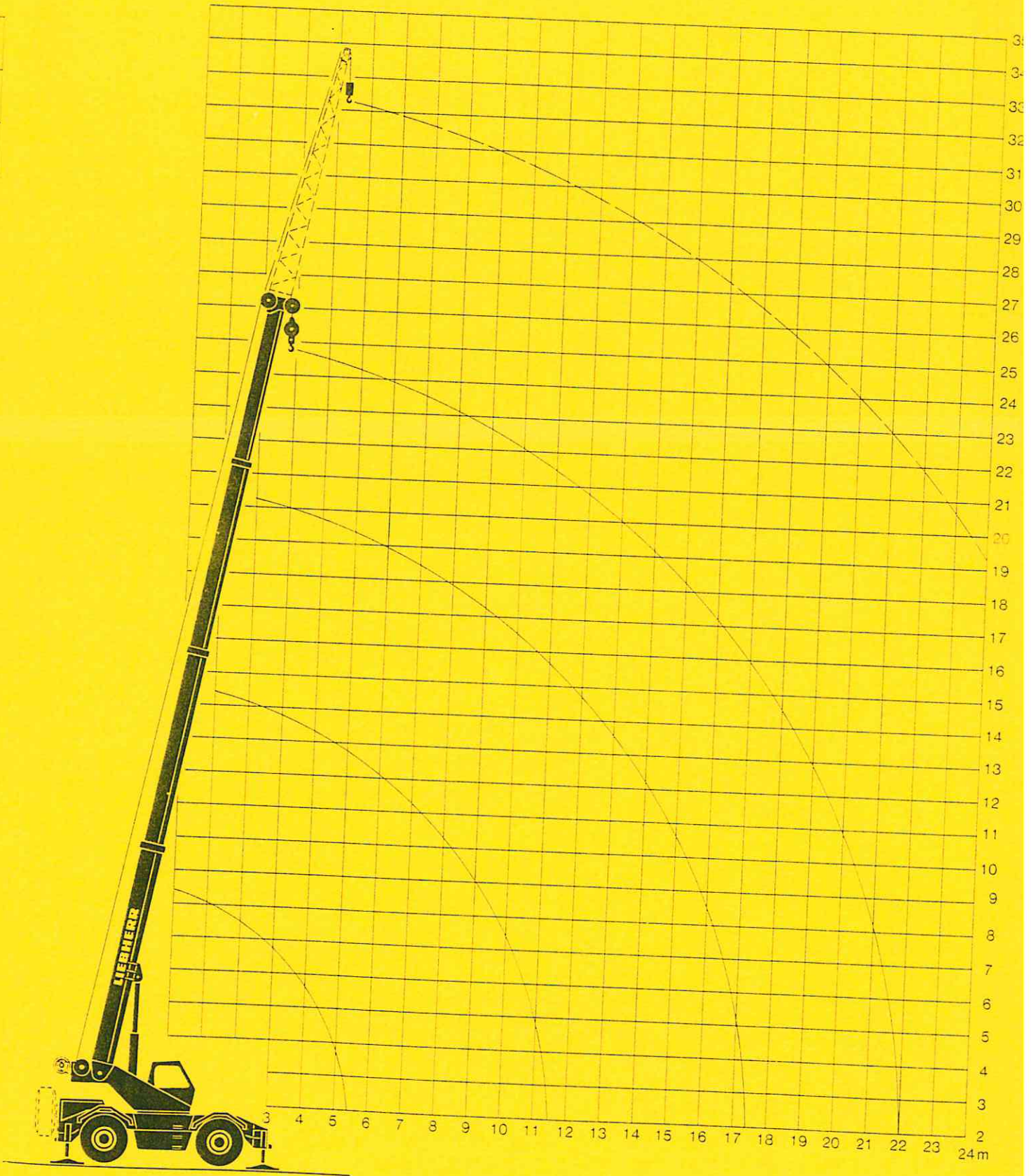
Technical Data.

LIEBHERR

Know to built mobile cranes.



Lifting heights.



Lifting capacities at the telescopic jib.

Telescopic jib lengths (m)

Operating condition: with outriggers; working range: 360°

Working radius m	7.8 m		13.2 m		18.6 m		24 m*		24 m + 7.9 m**	
	75 %	85 %	75 %	85 %	75 %	85 %	75 %	85 %	75 %	85 %
3	20	20								
3.5	18	18	16	16						
4	16	16	14	14	13	13				
4.5	14	14	12.5	12.5	11.6	11.6	10.5	10.5		
5	12.5	12.5	11.2	11.2	10.6	10.6	9.8	9.8		
6			9.2	9.2	8.9	8.9	8.5	8.5	3.5	3.5
7			7.8	8	7.6	7.6	7.2	7.2	3.5	3.5
8			6.7	7	6.5	6.5	6.3	6.3	3.15	3.15
9			5.7	6.2	5.5	5.5	5.5	5.5	2.9	2.9
10			5	5.5	4.8	4.8	4.8	4.8	2.65	2.65
12					3.7	3.8	3.8	3.9	2.25	2.3
14					2.7	3	3.1	3.2	2	2
16					2	2.2	2.4	2.5	1.75	1.8
18							1.9	2	1.5	1.6
20							1.45	1.6	1.35	1.4
22							1.1	1.2	1.2	1.25
24									1	1.1

* with jib extension

** with jib extension and 7.9 m lattice-type fly jib

Telescopic jib lengths (m)

Operating condition: free on tyres

Working range: 360°

Working radius m	7.8 m		13.2 m	
	75 %	85 %	75 %	85 %
2	10	10	10	10
3	7.2	7.2	7.2	7.2
4	5.4	5.4	5.4	5.4
5	4	4	4	4
6			2.8	3
7			2	2.2
8			1.5	1.65
9			1.2	1.4

Telescopic jib lengths (m)

Operating condition: free on tyres

Working range: over rear or front

Working radius m	7.8 m		13.2 m	
	75 %	85 %	75 %	85 %
3.5	10	10	10	10
4	9	9	9	9
4.5	8	8	8	8
5	7	7	7	7.1
6			5.3	5.6
7			4	4.4
8			3.1	3.4
9			2.45	2.7
10			2	2.15

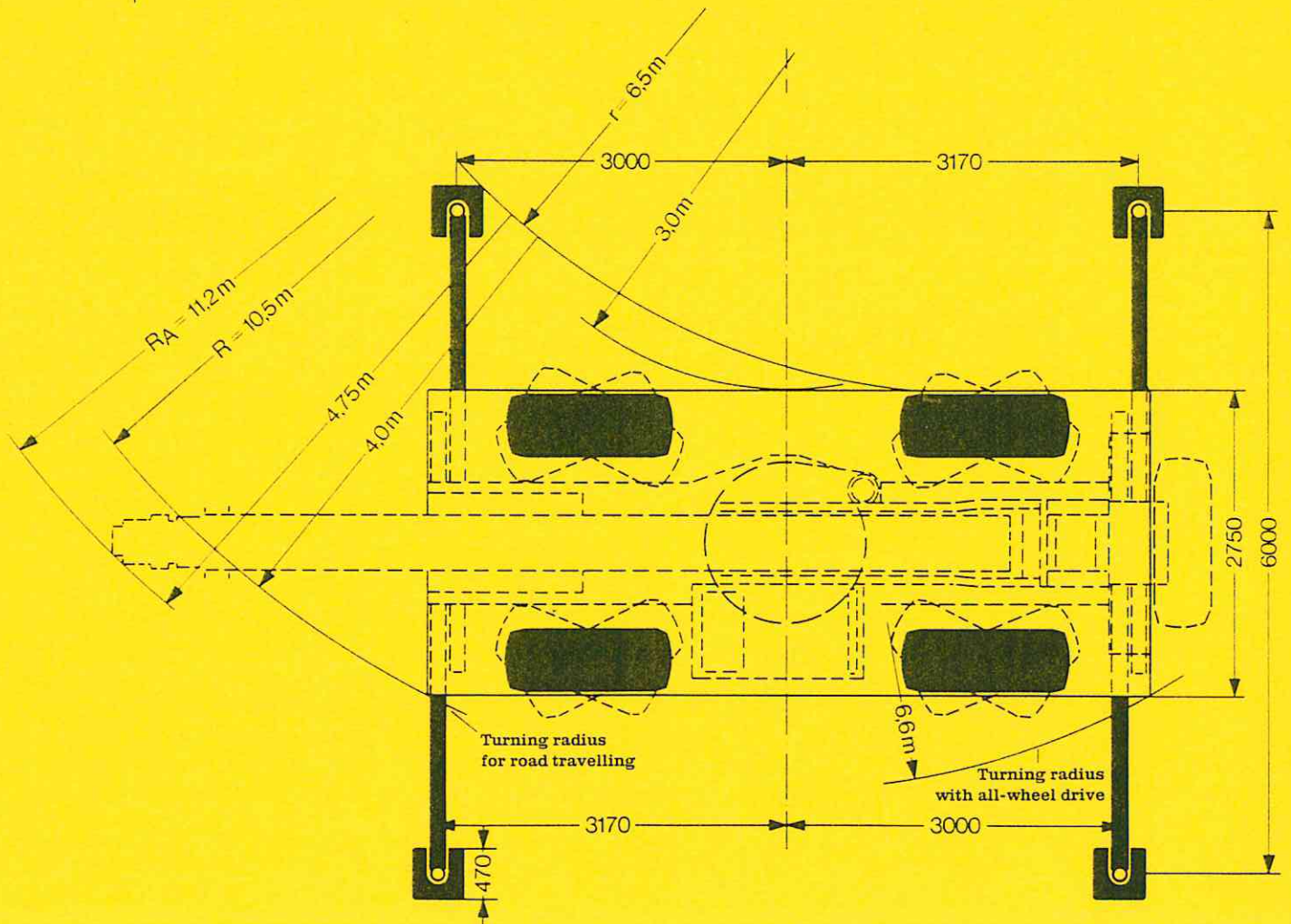
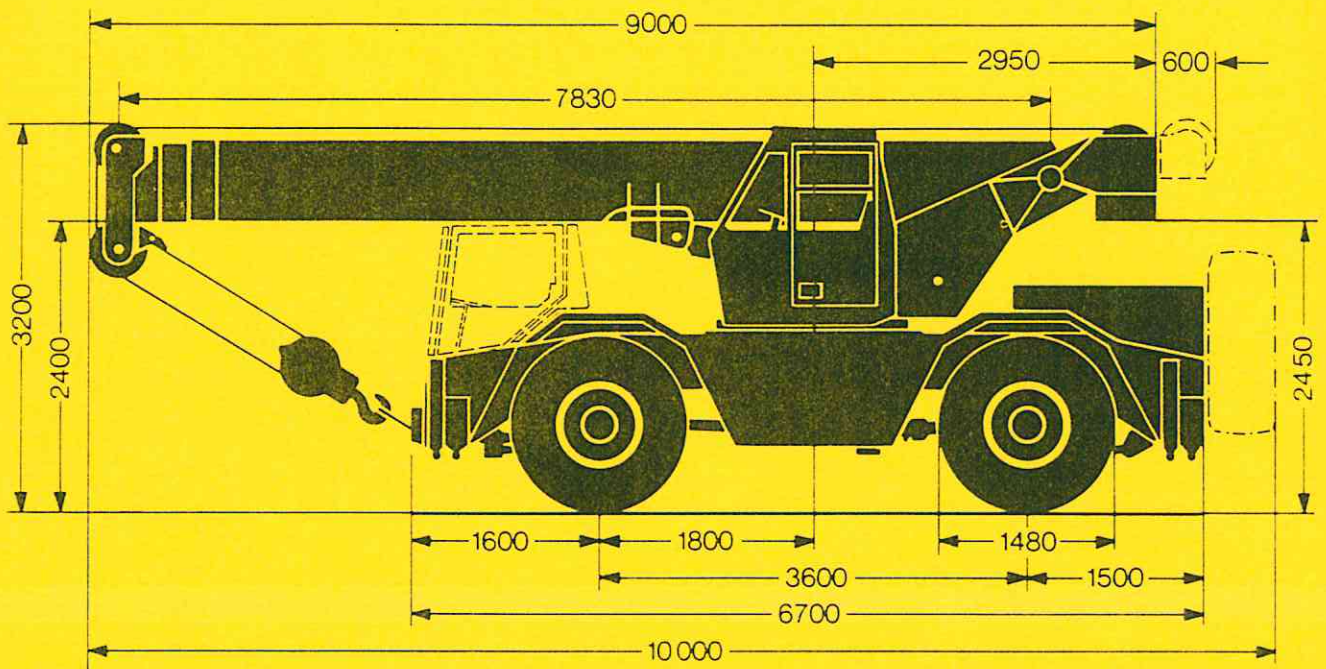
Notes on lifting capacity tables:

1. The quoted lifting capacities do not exceed 75 % or 85 % of the tipping load.
2. The 75 % lifting capacities comply with German Industrial Standard DIN 15019 Sheet 2, March 1973 edition, and with F.E.M. regulations.
3. Allowance has been made for wind force 8-9 = 0,025 Mp/m² at 75 % tipping load limits. The crane may be operated up to wind force 7.
4. Lifting capacities are quoted in metric tons.

5. The permissible lifting capacities include the weight of the hook or hook block.
6. Working radii are measured from the centre of the slewing ring.
7. The hoisting capacities given for the telescopic boom only apply, if the lattice type head section is taken off. If the lattice type head section is placed by the side of the pivot section, the hoisting capacity must be reduced for 200 kg. In case the lattice type head section is fixed to the pivot section, the hoisting capacities must be reduced for 500 kg.

Its maximum load moment is

Weights.



Working Speeds.

Travelling speeds in km/h.

Standard execution.

Gear ratio	1	2	3
On road	11,1	21,8	40,2
Off road	4,1	8,3	20,8

Road travelling execution.

Only with engine type BF 6 L 913.

Gear ratio	1	2	3
On road	13	25,8	60,5
Off road	4,7	9,6	24,6

Crane operating speeds at engine speed 2800 rev/min.

Drive	infinitely variable	max. single line pull kp
Main hoisting gear	0 – 96 m/min, single rope run, no load on hook	3550
Auxiliary hoisting gear	0 – 96 m/min, single rope run, no load on hook	3550
Slewing gear	0 – 2,1 rev/min	
Luffing gear	app. 50 sec. to 80° jib angle	
Telescoping	app. 75 sec. for jib length 7.8 – 18.6 m	

Weights, widths of path and turning radii.

Hook blocks and hooks

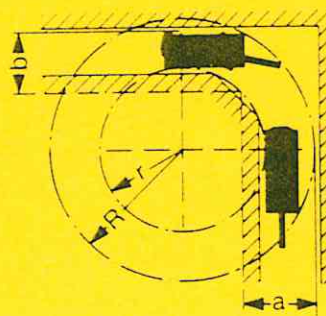
Load tonnes	Number of sheaves	Number of lines	Weight kg
20	3	6	320
10	1	3	160
3,5	-	1	70

Axle loads (t); crane in driving position.

Axle	1	2
Axle loads t	11	11

Widths of path and turning radii (m).

Widths of path and turning radii	Front axle steered		All-wheel steering
	Boom in longitudinal direction	Boom swung out	
a	6,6	5,9	4,5
b	4,7	5	4,5
r	6,5	6,5	3
R	11,2	10,5	6,6



4 mt.

Upper machinery.

Frame:	Liebherr-made, torsion-resistant welded construction made of structural alloy steel. Connection to crane carrier by one-row ball slewing ring, designed for 360° continuous rotation.
Crane drive:	1 axial piston pump in crane carrier – driven from main engine, open hydraulic circuits flow divider.
Controls:	By self-centring control lever. Additionally by varying the Diesel engine speed.
Hoisting gear:	Axial piston motor, full hydraulic power up and down. Hoist drum with integrated planetary gear and spring loaded brake.
Derricking:	1 hydraulic cylinder with integral safety locking valve.
Slewing:	Hydraulic motor with planetary gear and spring loaded brake. Swing speed infinitely variable.
Telescopic boom:	1 boom pivot section and 2 telescope sections. All sections hydraulically and synchronously under load extendable. Boom length: min. 7.8 m, max. 18.6 m.
Operator's cab:	All-steel construction, safety glazing, heater, full instrumentation for operation of crane and carrier.
Safety devices:	Hoist limit switch, radius indicator, safety valves to protect hydraulic system against pipe and hose fracture. Overload protection.

Crane carrier.

Frame:	Liebherr designed and manufactured, box type, torsion resistant, all-welded construction made of structural alloy steel.
Engine:	Deutz Type F 6L 912, 6-cylinder air-cooled diesel, output 112 bhp (DIN) at 2500 rev/min; max. torque: 35.2 mkp at 1600 rev/min. Fuel tank capacity: 200 litres.
Gearbox:	Powershift, forward and reverse with torque converter, 6 speeds forward and 6 speeds reverse, 2-speed distributing gearbox.
Axles:	Front: non-sprung planetary axle. Rear: planetary axle with oscillating lever and automatic locking device. Both axles are steering axles.
Tyres:	Four, 20.5 × 25, 20 PR.
Steering:	Hydrostatic steering from upper machinery.
Brakes:	Service brake: 1-line-1-circuit air booster brake acting on all wheels; parking brake: spring loaded brake acting on both axles.
Outriggers:	4-point support; fully hydraulic operation, vertically and horizontally.
Electrical system:	24 volts D.C., 2 batteries, lighting.

Additional equipment.

Boom extension:	By 3rd telescope, hydraulically extendable and bolted-on mechanically. Total boom length: 24 m.
Lattice-type fly jib:	Approx. 8 m long, rigidly mounted.
Aux. winch:	For two-hook-operation.
Execution for road travelling:	Diesel engine make KHD, type BF 6L 913, output 160 bhp (DIN) at 2650 rev/min. Front axle sprung. Mechanical steering of front axle. Brakes and lighting according to road regulations. Cab mounted on crane carrier.
Working cage:	Mounted to head of telescopic boom.