BAY CRANE

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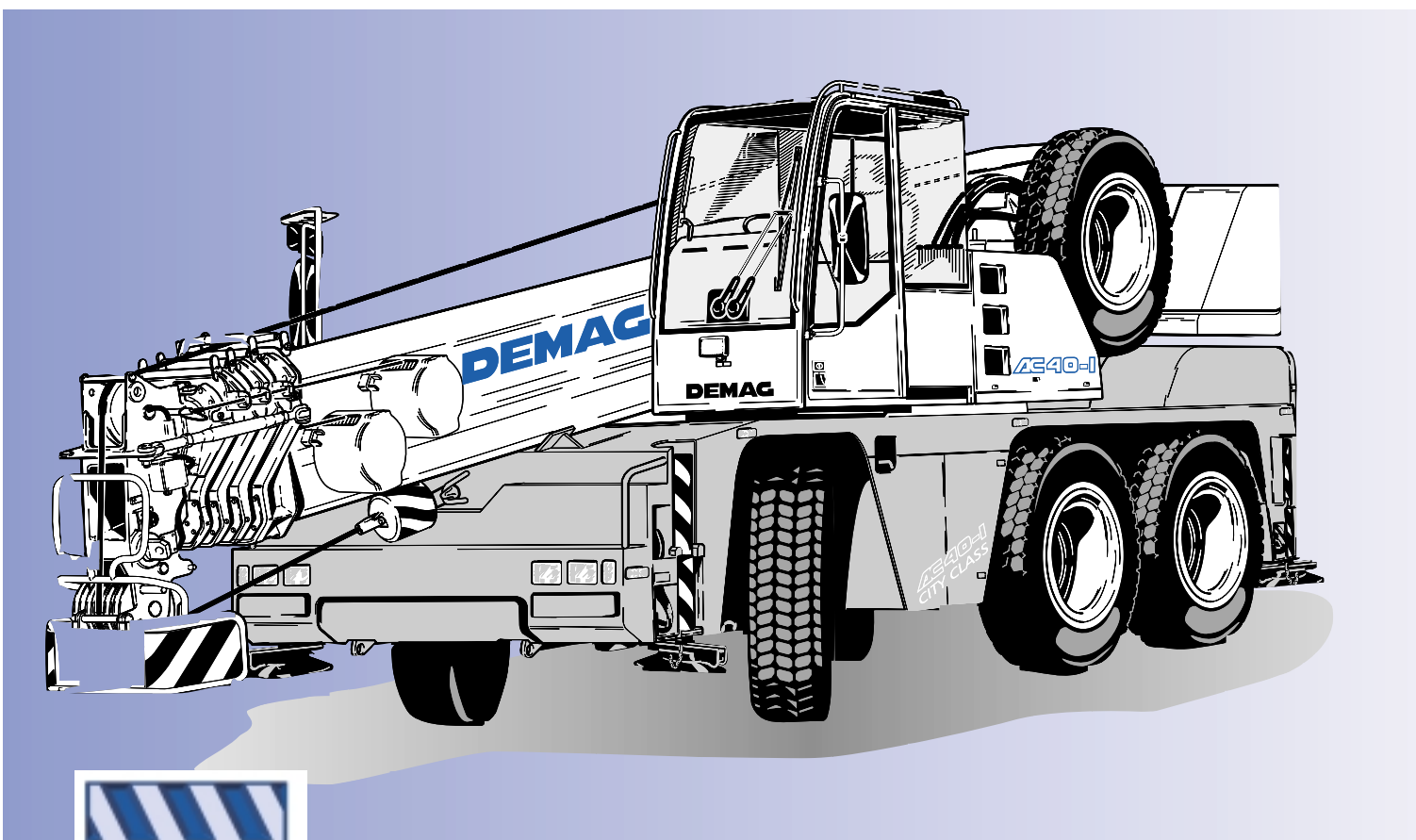
45 ton

Demag AC40
Load Charts

DEMAG
Mobile Cranes

Demag AC 40-1



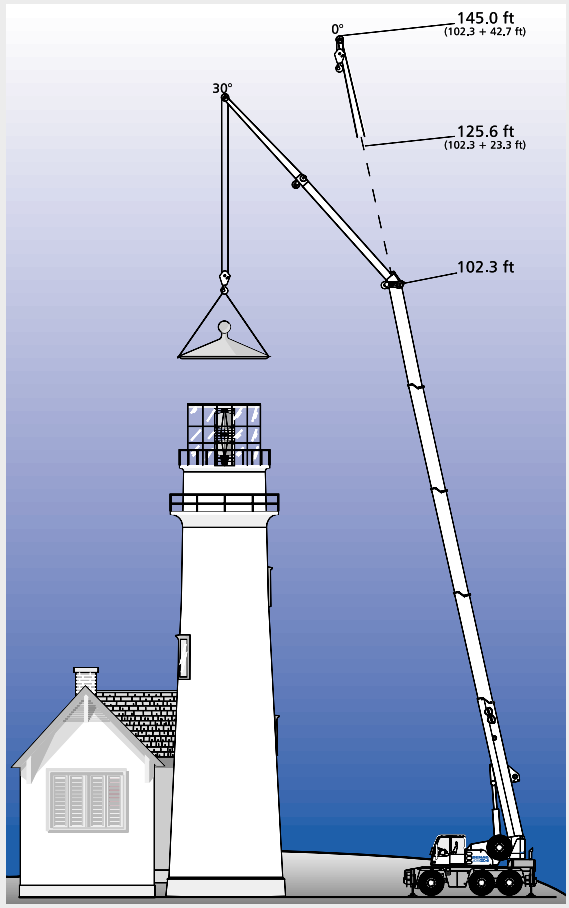
40t

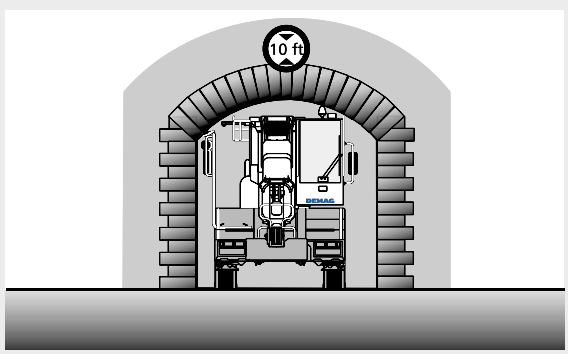
MAIN MENUE

Demag AC 40-1

HIGHLIGHTS

- Most compact 3-axle crane in its category
- Fast on road and excellent manœuvrability off road
- Universal applicability with a host of attachments
- Clearance height is just 3 m





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MAIN MENUE CONTENTS

Contents

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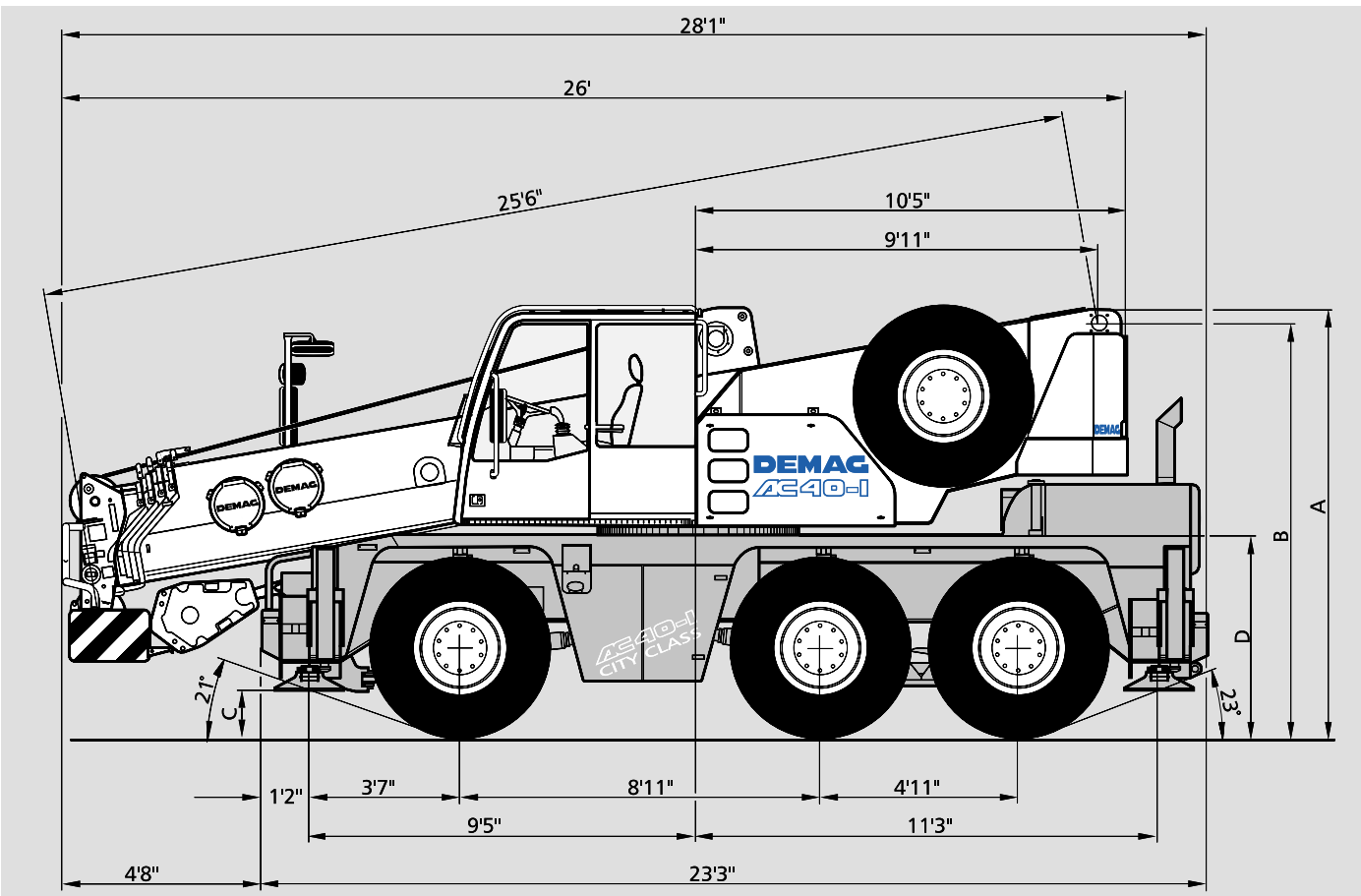
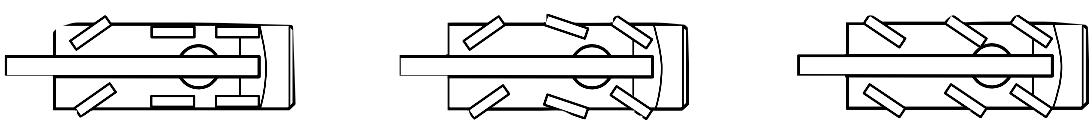
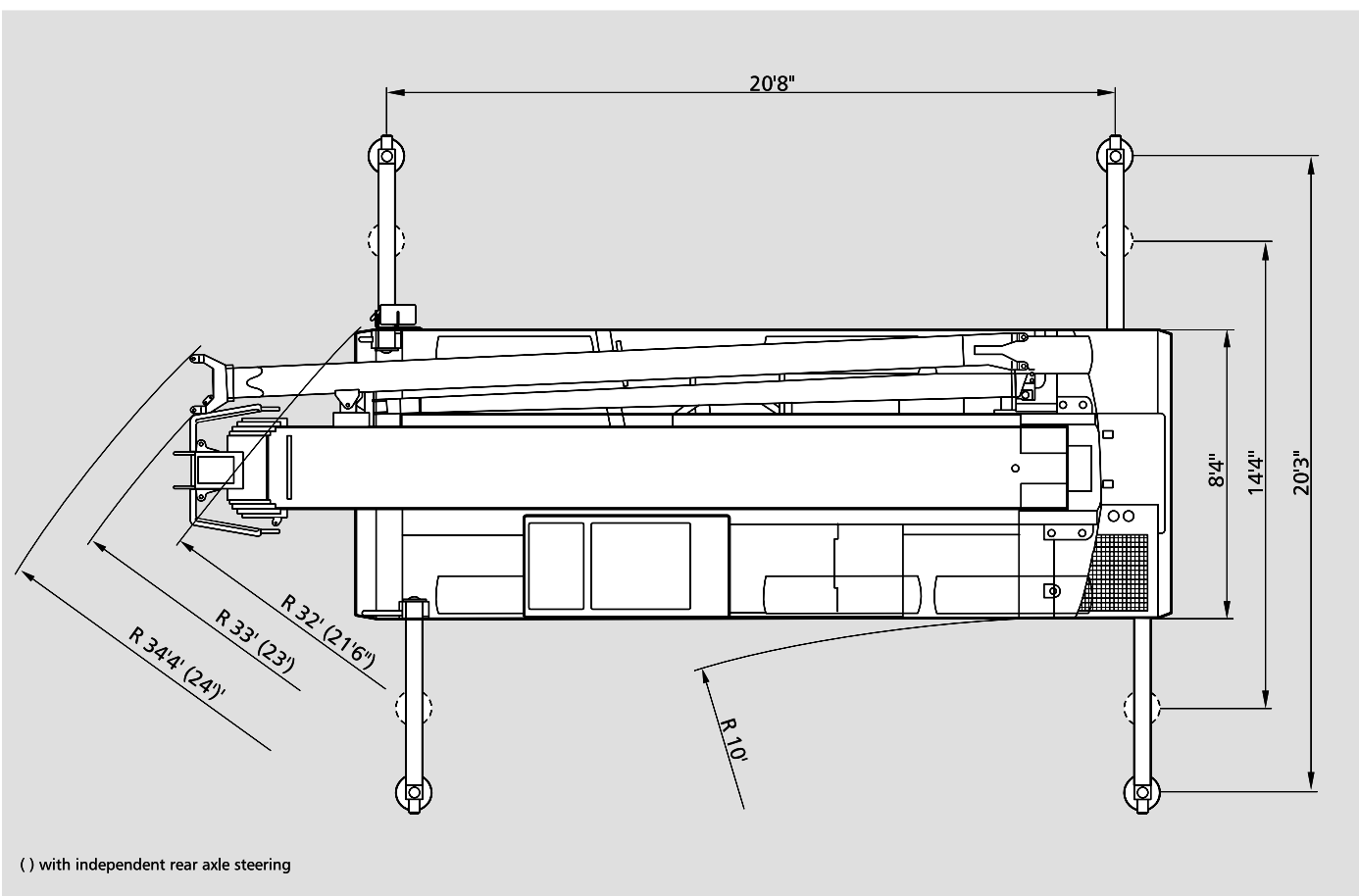
Dimensions

Type of tires	Level	A	B	C	D
14.00	Road	10’5”	10’1”	1’2”	4’9”
14.00	Lowered	10’2”	9’9”	9”	4’6”
445 / 65	Road	10’1”	9’8”	8”	4’5”
445 / 65	Lowered	9’8”	9’5”	5”	4’2”



MAIN MENUE CONTENTS





( ) with independent rear axle steering

Specifications

Axle loads

Crane with main boom, 42.6 ft main boom extension, counterweight, tyres 445/65 R 22.5, hook block.

Axles	Axle 1	20,000 lb
Total	Axle 2+3	25,000 lb
		70,000 lb

Working speeds (infinitely variable)

Mechanisms	Normal speed	High speed	Max. permissible line pull[1)]	Rope length
Hoist I	197 ft/min	377 ft/min	43 kN	492.1 ft
Slewing				max. 2 1/min
Telescoping speed				25.6 – 102.3 ft: 90 s
Boom elevation				–10° – +78°: 50 s

Carrier performance

Travel speed	0 . . 50 mph[2)]
Gradeability in travel order	> 60 %
Ground clearance	1'/1'3" ft[2)]

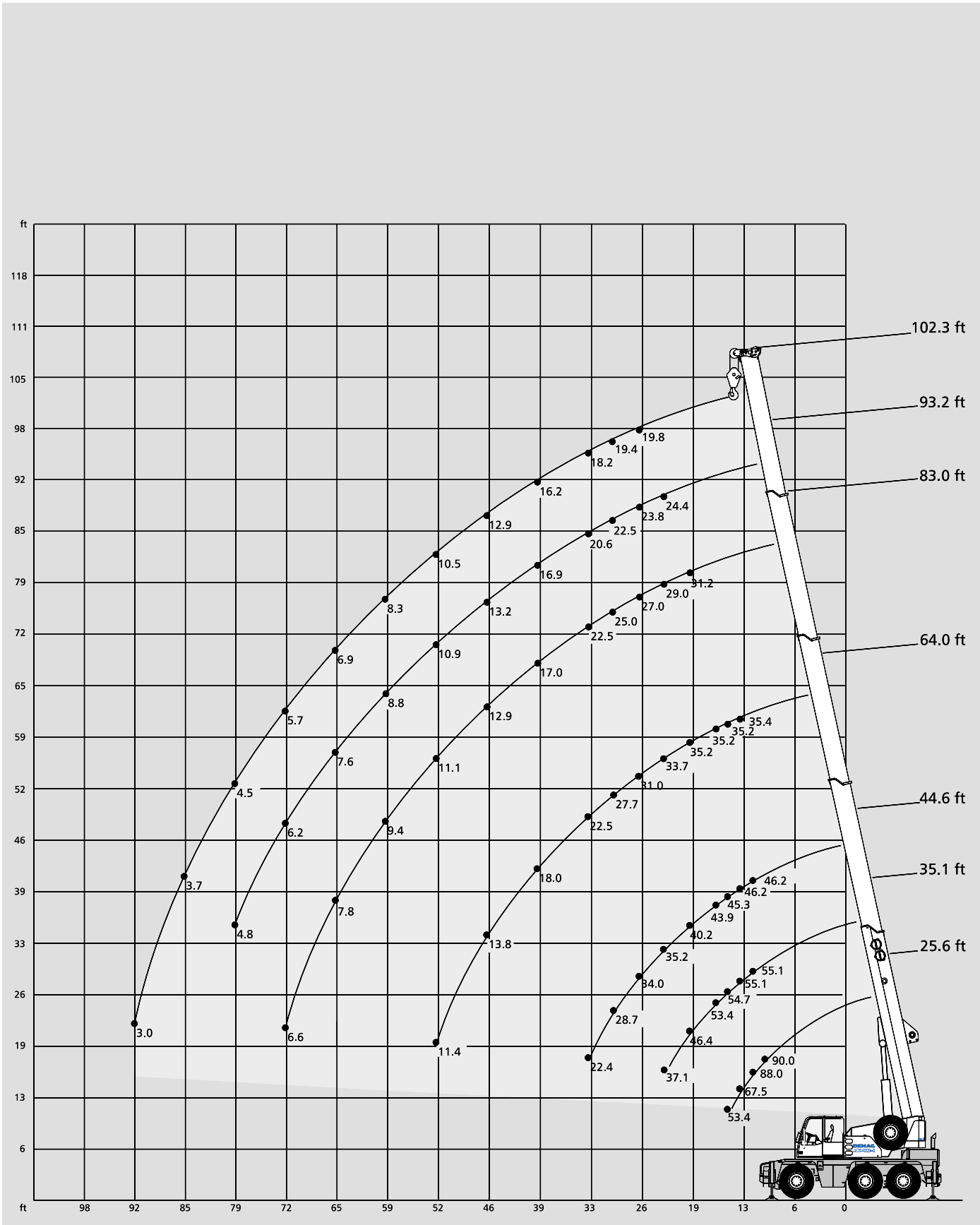
Hook block / Single line hook

Type	Possible load[1)]	Number of sheaves	Weight	„D"	Max. reeving	Heavy-lift attachment
63	110,000 lb	6	1058 lb	6.6 ft	10	1 add. sheave
32	66,400 lb	3	716 lb	4.3 ft	7	
16	26,500 lb	1	551 lb	3.6 ft	3	
5	8,800 lb	Single line hook	287 lb	2.6 ft	1	

Remarks

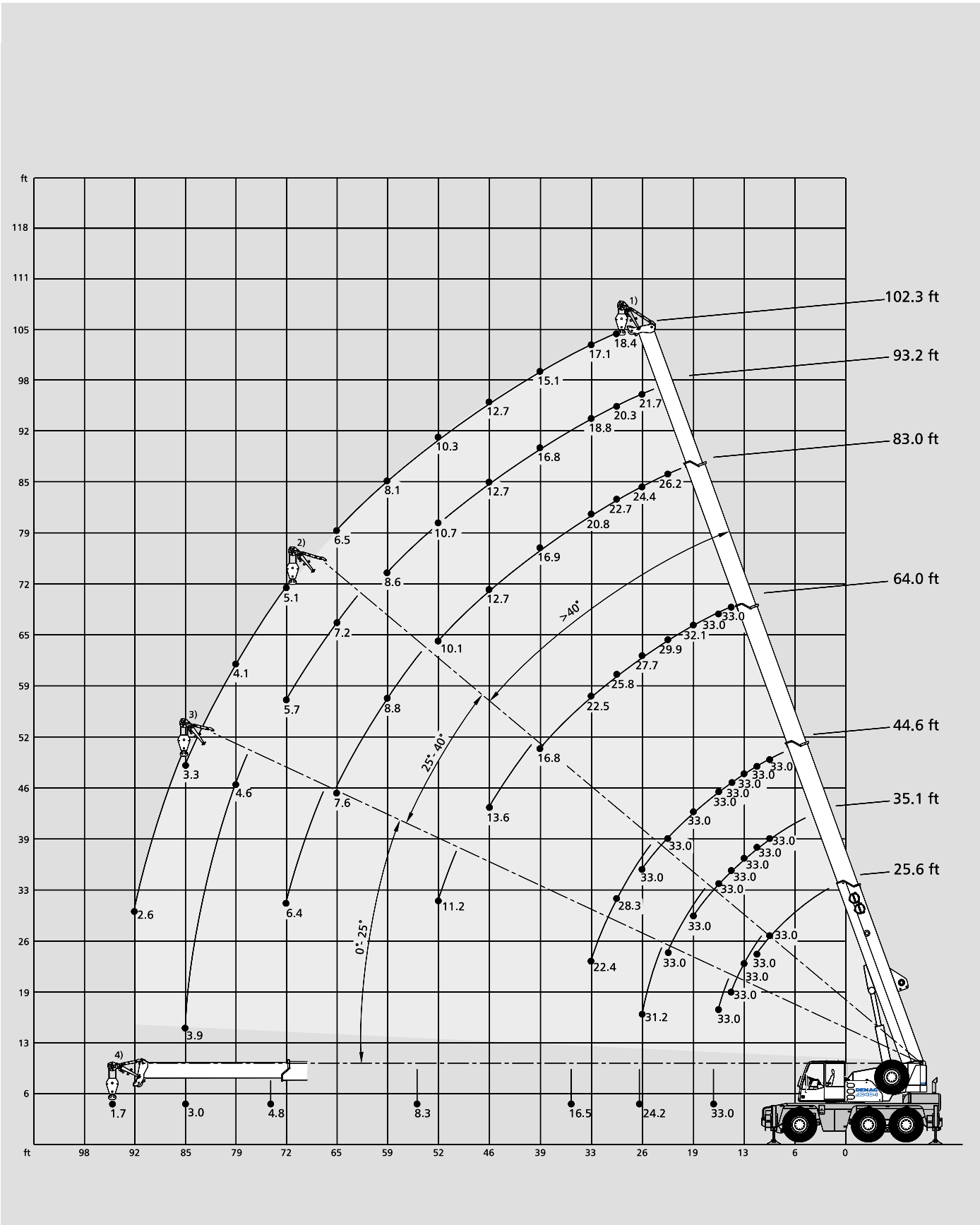
[1)] varies depending on national regulations
[2)] depending on type of tyres

Working ranges main boom



MAIN MENUE CONTENTS

Runner for workshop applications



MAIN MENUE CONTENTS

Lifting capacities main boom

20'10" x 20'4" 360° DIN/ISO

Main boom

Radius	ft	25.6	35.1	44.6	64.0	83.0	93.2	102.3
ft					1,000 lb			
10		88.0 *	-	-	-	-	-	-
10		75.2	55.1	46.2	-	-	-	-
11		72.6	55.1	46.2	-	-	-	-
13		67.5	55.1	46.2	35.4	-	-	-
15		53.4	54.7	45.3	35.2	-	-	-
16		-	53.4	43.9	35.2	-	-	-
19		-	46.4	40.2	35.2	31.2	-	-
23		-	37.1	35.2	33.7	29.0	24.4	-
26		-	-	34.0	31.0	27.0	23.8	19.8
29		-	-	28.7	27.7	25.0	22.5	19.4
33		-	-	22.4	22.5	22.5	20.6	18.2
39		-	-	-	18.0	17.0	16.9	16.2
46		-	-	-	13.8	12.9	13.2	12.9
52		-	-	-	11.4	11.1	10.9	10.5
59		-	-	-	-	9.4	8.8	8.3
65		-	-	-	-	7.8	7.6	6.9
72		-	-	-	-	6.6	6.2	5.7
79		-	-	-	-	-	4.8	4.5
85		-	-	-	-	-	-	3.7
92		-	-	-	-	-	-	3.0
98		-	-	-	-	-	-	-
Capacities[1)]		44.0	30.8	19.4	9.9	5.5	3.9	2.4

0°* DIN/ISO

Main boom

25.6	35.1	44.6	Radius
	1,000 lb		ft
-	-	-	10
31.6	30.5	32.9	10
29.4	28.3	30.6	11
25.5	24.6	26.8	13
19.6	21.7	23.9	15
-	20.3	22.5	16
-	17.2	19.2	19
-	13.3	15.8	23
-	-	13.2	26
-	-	10.9	29
-	-	9.0	33
-	-	-	39
-	-	-	46
-	-	-	52
-	-	-	59
-	-	-	65
-	-	-	72
-	-	-	79
-	-	-	85
-	-	-	92
-	-	-	98
17.6	8.8	6.6	Capacities[1)]

20'10" x 7'8" 360° DIN/ISO

Main boom

Radius	ft	25.6	35.1	44.6	64.0
ft				1,000 lb	
13		26.5	25.0	28.1	28.7
15		18.5	19.8	22.6	23.3
16		-	17.7	20.4	21.1
19		-	13.4	15.7	16.4
23		-	9.3	11.6	12.1
26		-	-	9.6	10.0
29		-	-	8.1	8.6
33		-	-	6.4	6.9
39		-	-	-	5.1
46		-	-	-	3.7
52		-	-	-	2.9
Capacities[1)]		17.6	6.1	4.6	-

360°** DIN/ISO

Main boom

25.6	35.1	44.6	Radius
	1,000 lb		ft
-	-	-	13
11.1	11.6	14.2	15
-	10.7	13.2	16
-	8.4	10.8	19
-	6.1	8.3	23
-	-	6.9	26
-	-	5.9	29
-	-	4.8	33
-	-	-	39
-	-	-	46
-	-	-	52
10.6	4.2	2.9	Capacities[1)]

Remarks

* 0° over rear
** only stationary
1) with horizontal boom

MAIN MENUE CONTENTS

20'10" x 14'5" 360° DIN/ISO

Main boom

Radius	ft	25.6	35.1	44.6	64.0	83.0	93.2	102.3	Radius
ft					1,000 lb				ft
10		74.9	55.1	46.2	-	-	-	-	10
11		70.7	55.1	46.2	-	-	-	-	11
13		62.8	55.1	46.2	35.4	-	-	-	13
15		44.9	49.2	44.7	35.2	-	-	-	15
16		-	43.0	41.1	35.2	-	-	-	16
19		-	31.1	32.4	32.1	31.2	-	-	19
23		-	21.3	24.4	25.0	23.9	23.7	-	23
26		-	-	19.9	20.6	19.5	19.5	19.6	26
29		-	-	16.6	17.3	17.2	16.8	16.4	29
33		-	-	13.2	14.0	14.2	13.7	13.3	33
39		-	-	-	10.7	11.0	10.5	10.1	39
46		-	-	-	8.1	8.3	7.9	7.4	46
52		-	-	-	6.7	6.7	6.3	6.0	52
59		-	-	-	-	5.5	5.0	4.6	59
65		-	-	-	-	4.7	4.0	3.8	65
72		-	-	-	-	3.7	3.3	2.8	72
79		-	-	-	-	-	2.6	2.1	79
85		-	-	-	-	-	-	1.7	85
92		-	-	-	-	-	-	1.3	92
Capacities[1)]		44.1	15.4	11.4	5.5	3.3	1.7	-	Capacities[1)]

Remarks

1) with horizontal boom

MAIN MENUE CONTENTS

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DEMAG AC40 CITY CRANE

TELESCOPING LOAD CHART

Telescoping loads (t)

	∢ main boom	Main boom (m) EXTENSION 10.7 (50/0)	13.6 (100/0)	RETRACTING 10.7 (50/0)	7.7 (0/0)
1.	77°	9.5	6.2	14.9	13.2
	70°	9.5	5.3	14.9	13.2
	60°	9.5	4.4	14.9	13.2
	50°	9.5	3.9	7.8	13.2
	40°	9.5	3.7	4.4	13.2
	30°	9.5	3.6	2.7	13.2
	20°	9.5	3.6	1.7	13.2
	10°	9.5	3.6	1.0	13.2
	0°	9.5	3.6	0.6	13.2

		13.5 (0/33)	19.3 (0/66)	25.3 (0/100)	28.2 (50/100)	31.2 (100/100)	28.2 (50/100)	25.3 (0/100)	19.3 (0/66)	13.5 (0/33)	7.7 (0/0)
2.	77°	9.0	7.6	3.7	7.2	2.9	7.1	9.5	10.0	13.3	12.0
	70°	8.8	7.0	2.9	6.2	1.9	2.7	8.8	4.9	13.3	12.0
	60°	8.8	6.4	2.1	5.3	1.1	0.8	6.8	2.4	13.3	12.0
	50°	8.8	6.1	1.7	4.7	0.6	-	4.9	1.4	10.8	12.0
	40°	8.8	6.0	1.4	3.4	-	-	3.4	0.9	8.0	12.0
	30°	8.8	6.0	1.3	2.8	-	-	2.8	0.6	6.3	12.0
	20°	8.8	5.1	1.2	2.3	-	-	2.4	-	5.1	10.5
	10°	8.8	4.5	1.2	1.8	-	-	1.8	-	4.5	8.8
	0°	8.8	4.5	1.2	1.8	-	-	1.4	-	4.5	8.8

		13.6 (25/25)	19.5 (50/50)	25.3 (75/75)	31.2 (100/100)	25.3 (75/75)	19.5 (50/50)	13.6 (25/25)	7.7 (0/0)
3.	77°	9.3	8.4	6.3	2.9	7.1	14.0	12.8	12.0
	70°	9.1	7.6	5.2	1.9	2.7	13.2	12.8	12.0
	60°	9.1	7.0	4.2	1.1	0.8	10.3	12.8	12.0
	50°	9.1	6.7	3.6	0.6	-	5.9	10.3	12.0
	40°	9.1	6.6	3.3	-	-	3.5	7.5	12.0
	30°	9.1	5.7	3.0	-	-	2.2	5.7	12.0
	20°	9.1	4.5	2.5	-	-	1.4	4.5	10.2
	10°	8.5	4.0	2.5	-	-	0.9	4.0	8.5
	0°	8.5	4.0	2.0	-	-	-	3.6	8.5

The values apply to well lubricated booms. Under poor operating conditions (eg poor lubrication) the telescoping load can be reduced by up to 50%. The telescoping loads only apply at a maximum outrigger support area and 5.4 t counterweight.

Telescoping Loads

The load tables supplied show the loads which can be lifted by telescoping relative to boom length, extension length of the individual telescopic sections, boom angle and hoist rope reeving.

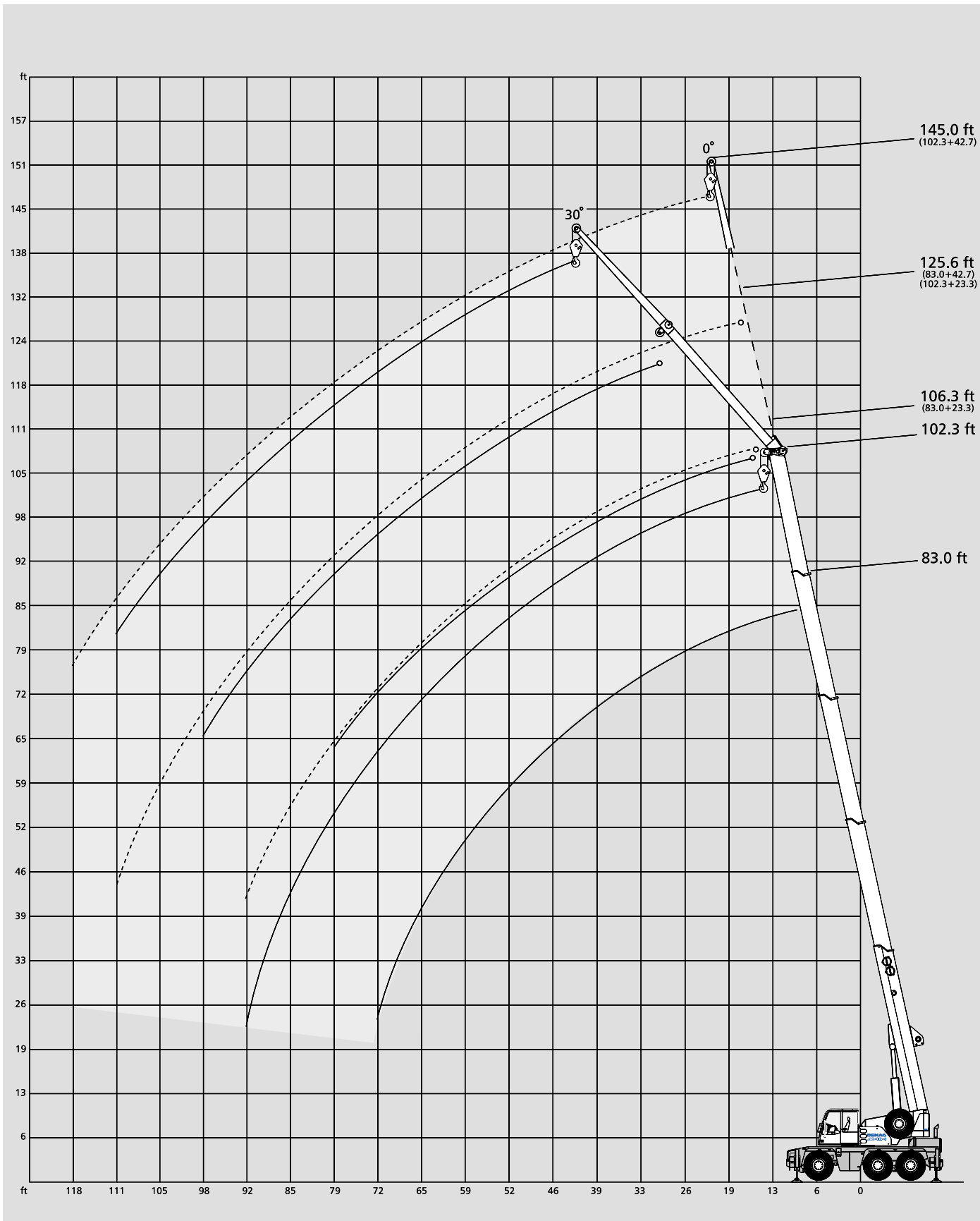
The telescopic loads stated in the tables are attained under the following conditions:

- Sliding surfaces of the telescopic sections well greased.
- Normal ambient temperature (major reductions should be anticipated if the temperature is below 0°C).
- The actual loads to be telescoped must be reduced to the values of the corresponding load tables.
- The values specified apply to the extension of the telescopic sections. The values are reduced when retracting the telescopic sections at a shallow angle.
- The extension length of the individual telescopic sections is prescribed to form the whole length. This boom length must not be exceeded.
- The boom angle must not exceed the values stated in the tables.

PLEASE NOTE: DATA IS IN METRIC UNITS!
1 Meter = 3.281 Feet
1 Metric tonne = 2,200 lbs

11-02 43RD Avenue, LIC NY 11101 Tel: 718 392 0800 Fax: 718 349 6681

Working ranges main boom extension



MAIN MENUE CONTENTS

Lifting capacities main boom extension

20'10" x 20'4" 360° DIN/ISO

83.0 ft Main boom

Radius	Extension 23.3 ft		Extension 42.7 ft	
	0°	30°	0°	30°
ft	1,000 lb			
26	14.3	-	-	-
29	13.7	-	-	-
33	12.9	9.2	7.9	-
39	11.9	8.8	7.3	-
46	10.7	8.3	6.6	-
52	9.9	8.1	6.2	4.8
59	8.8	7.7	5.7	4.6
65	7.4	7.5	5.3	4.4
72	6.2	6.4	5.0	4.1
79	5.0	5.2	4.6	4.1
85	4.2	-	4.4	3.9
92	3.5	-	3.7	3.9
98	-	-	3.3	3.5
105	-	-	2.6	-
111	-	-	2.2	-

102.3 ft Main boom

33	11.0	-	-	-
39	10.6	8.6	6.6	-
46	10.1	8.1	6.3	-
52	9.7	7.7	6.1	-
59	8.8	7.2	5.9	4.6
65	7.4	6.8	5.5	4.4
72	5.9	6.4	5.2	4.1
79	4.8	5.2	4.8	4.1
85	4.0	4.4	4.2	3.9
92	3.2	3.5	3.5	3.9
98	2.6	2.9	2.9	3.5
105	1.9	-	2.4	2.8
111	1.5	-	2.0	2.2
118	-	-	1.5	-

20'10" x 14'5" 360° DIN/ISO

83.0 ft Main boom

Radius	Extension 23.3 ft		Extension 42.7 ft	
	0°	30°	0°	30°
ft	1,000 lb			
26	14.3	-	-	-
29	13.7	-	-	-
33	12.9	9.2	7.9	-
39	10.5	8.8	7.3	-
46	7.9	8.3	6.6	-
52	6.3	6.9	6.2	4.8
59	5.0	5.5	5.2	4.6
65	4.0	4.5	4.2	4.4
72	3.3	3.5	3.5	4.1
79	2.6	2.8	2.8	3.5
85	2.0	-	2.2	2.8
92	1.5	-	1.7	2.1
98	-	-	1.3	1.7
105	-	-	-	-
111	-	-	-	-

102.3 ft Main boom

33	10.9	-	-	-
39	10.1	8.6	6.6	-
46	7.7	8.1	6.3	-
52	6.2	6.9	6.1	-
59	4.8	5.5	5.0	4.6
65	3.8	4.5	4.0	4.4
72	3.1	3.5	3.3	3.9
79	2.3	2.8	2.6	3.2
85	1.7	2.2	2.0	2.6
92	1.3	1.5	1.5	2.1
98	-	-	-	1.5
105	-	-	-	-
111	-	-	-	-
118	-	-	-	-

MAIN MENUE CONTENTS

Lifting capacities runner

20'10" x 20'4" 360° DIN/ISO

Main boom

Radius	ft	25.6	35.1	44.6	64.0	83.0	93.2	102.3	
ft					1,000 lb				ft
10		33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	-	10
11		33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	-	11
13		33.0[2)]	33.0[1)]	33.0[1)]	-	-	-	-	13
15		33.0[2)]	33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	15
16		33.0[3)]	33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	16
19		-	33.0[1)]	33.0[1)]	32.1[1)]	-	-	-	19
23		-	33.0[2)]	33.0[1)]	29.9[1)]	26.2[1)]	-	-	23
26		-	31.2[3)]	33.0[1)]	27.7[1)]	24.4[1)]	21.7[1)]	-	26
29		-	-	28.3[2)]	25.8[1)]	22.7[1)]	20.3[1)]	18.4[1)]	29
33		-	-	22.4[2)]	22.5[1)]	20.8[1)]	18.8[1)]	17.1[1)]	33
39		-	-	-	16.8[1)]	16.9[1)]	16.8[1)]	15.1[1)]	39
46		-	-	-	13.6[2)]	12.7[1)]	12.7[1)]	12.7[1)]	46
52		-	-	-	11.2[3)]	10.1[1)]	10.7[1)]	10.3[1)]	52
59		-	-	-	-	8.8[2)]	8.6[1)]	8.1[1)]	59
65		-	-	-	-	7.6[2)]	7.2[2)]	6.5[1)]	65
72		-	-	-	-	6.4[3)]	5.7[2)]	5.1[2)]	72
79		-	-	-	-	-	4.6[3)]	4.1[2)]	79
85		-	-	-	-	-	3.9[3)]	3.3[2)]	85
92		-	-	-	-	-	-	2.6[3)]	92
Capacities[4)]		33.0[2+3)]	24.2[2+3)]	16.5[2+3)]	8.3[2+3)]	4.8[2+3)]	3.0[2+3)]	1.7[2+3)]	Capacities[4)]

20'10" x 14'5" 360° DIN/ISO

Main boom

Radius	ft	25.6	35.1	44.6	64.0	83.0	93.2	102.3	
ft					1,000 lb				ft
10		33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	-	10
11		33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	-	11
13		33.0[2)]	33.0[1)]	33.0[1)]	-	-	-	-	13
15		33.0[2)]	33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	15
16		33.0[3)]	33.0[1)]	33.0[1)]	33.0[1)]	-	-	-	16
19		-	30.1[1)]	32.5[1)]	32.0[1)]	-	-	-	19
23		-	21.9[2)]	24.6[1)]	24.1[1)]	24.1[1)]	-	-	23
26		-	17.7[3)]	20.0[1)]	20.5[1)]	19.5[1)]	19.4[1)]	-	26
29		-	-	16.8[2)]	17.3[1)]	16.4[1)]	16.5[1)]	16.2[1)]	29
33		-	-	13.2[2)]	14.0[1)]	14.2[1)]	13.5[1)]	13.1[1)]	33
39		-	-	-	10.5[1)]	10.7[1)]	10.3[1)]	9.6[1)]	39
46		-	-	-	7.9[2)]	8.1[1)]	7.6[1)]	7.2[1)]	46
52		-	-	-	6.5[3)]	6.5[1)]	6.0[1)]	5.6[1)]	52
59		-	-	-	-	5.3[2)]	4.6[1)]	4.2[1)]	59
65		-	-	-	-	4.2[2)]	3.8[2)]	3.3[1)]	65
72		-	-	-	-	3.5[3)]	2.8[2)]	2.4[2)]	72
79		-	-	-	-	-	2.3[3)]	1.7[2)]	79
85		-	-	-	-	-	1.7[3)]	-	85
92		-	-	-	-	-	-	-	92
Capacities[4)]		33.0[2+3)]	14.9[2+3)]	10.5[2+3)]	5.0[2+3)]	2.6[2+3)]	-	-	Capacities[4)]

Remarks

1) Working range – max. offset for runner
2) Working range – medium offset for runner
3) Working range – min. offset for runner
4) with horizontal boom

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Technical description

Carrier

Drive/steering	6 x 4 x 6
Frame	Monobox main frame with outrigger boxes integral, of high-strength fine-grain structural steel.
Outriggers	4 hydraulically telescoping outrigger beams with hydraulic jack legs.
Engine	DaimlerChrysler OM 906 LA water-cooled 6-cylinder engine (EPA), output to DIN: 205 kW (279 hp), max. torque 1100 Nm at 1300 ^{1}/min. Fuel tank capacity: 79 gallons.
Transmission	Allison automatic transmission with torque-converter, 6 forward speeds and 1 reverse, transfer case with off-road range and longitudinal differential lock-out control incl. ADM.
Axles	Axle 1: with ext. planetary hubs, steering, transverse differential locks; axle 2: non-driving, steering for crab steer mode; axle 3: with ext. planetary hubs, steering for crab steer mode, transverse differential locks.
Suspension	Hydropneumatic suspension, blockable hydraulically.
Wheels and tires	6 wheels fitted with 445/65 R 22.5 tires.
Travel speed	50 mph.
Steering	ZF dual-circuit hydraulic steering with mech. steering end stop. 1 engine-driven master steering pump, 1 emergency steering pump. Independent rear axle steering.
Brakes	Service brake: dual-line air system. Parking brake: spring-loaded type. Sustained action brake: engine exhaust brake and constant decompression valve.
Electrical equipment	24 V system, 3-phase alternator 80 A, 2 batteries 12 V/120 Ah. Lighting in compliance with EC-directives.

Superstructure

Main boom	Boom base and 4 telescopic sections, fabricated from fine-grain structural steel, telescoping with partial load, anti-deflection Demag ovaloid design.
Counterweight	Integrated into superstructure.
Hydraulic system	Powered by carrier engine, 1 variable-displacement axial piston pump to enable 3 simultaneous, independent working movements, separate fixed-displacement pump for slew unit.
Hoist	Fixed-displacement axial-piston motor, hoist drum with planetary reduction integral and spring-applied multi-disk brake.
Slew unit	Hydraulic motor with planetary gear reducer, pedal-operated service brake and spring-applied holding brake. Slewing speed infinitely variable.
Boom elevation	1 differential cylinder with pilot-controlled lowering brake valve.
Crane cab	Spacious all-steel comfortable cab with sliding door, large folding-out windscreen, roof window with armoured glass, vertically adjustable operator's seat, controls and instrumentation for all crane movements, washer and interval control wiper for windscreen and roof window.
Safety devices	Electronic safe load indicator with graphic display and digital readout for hook load, rated load, boom length, boom angle, load radius. Integrated display to indicate the percentage of tele sequence, limit switches on hoist and lowering motions, pressure-relief and safety holding valves.

Optional equipment

Drive/steering	6 x 6 x 6.
Wheels and tires	14.00 R 25 or 17.5 R 25.
Main boom extension	Side-folding 1 or 2-part jib, 23.3 ft or 42.7 ft. 0° and 30° offset.
Heavy-lift attachment	1 additional sheave on boom head.
Heavy-lift runner	3.9 ft long, 3-sheave with several offset positions for working inside buildings.
Searcher hook	
Air-conditioning	
Cool box	

Notes to lifting capacity

Ratings are in compliance with ISO 4305 and DIN 15019.2 (test load = 1.25 x suspended load + 0.1 x dead weight of boom reduced to boom point).
Weight of hook blocks and slings is part of the load, and is to be deducted from the capacity ratings.

Crane operation is permissible up to a
wind pressure of ..... 1.25 lb/ft^2

wind speed of ..... 32 ft

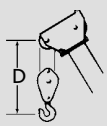
Consult operation manual for further details.

Note: Data published herein is intended as a guide only and shall not be construed to warrant applicability for lifting purposes.
Crane operation is subject to the computer charts and operation manual both supplied with the crane.

Key

Lifting capacities on outriggers 360°

free on wheels

„D“ 

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