IRON STAG CRANE SERVICE

GROVE® by Manitowoc

TMS9000-2

Product Guide

ASME B30.5
Imperial 85%

Features

- 100 t (115 USt)
- 11,2 m - 51,6 m (36 ft -169 ft) six-section greaseless MEGAFORM™ boom
- TWIN-LOCK™ boom pinning system
- Several 10,5 m - 17,6 m (34.5 ft - 57.6 ft) bi-fold swingaway extension options and an 8 m (26 ft) insert
- Crane Control System (CCS)
- Tilt superstructure cab
- Up to 22 000 kg (48,500 lb) counterweight with hydraulic removal system

IRON STAG CRANE SERVICE

Load chart
Main boom

36.6 ft - 169.3 ft
Fixed lengths

48,500 lb

100%
23 ft

360°

Pounds

Feet	37	50	62-64	75-77	88-90	100-103	111-114	122-126	136-140	147-154	159-165	169
8.0	230,000*											
9.0	180,000	164,000										
10.0	173,500	158,000	146,000	128,500								
12.0	155,500	148,500	135,500	124,000	94,600							
15.0	134,500	135,500	123,500	114,000	94,600	74,950						
20.0	108,000	109,500	110,000	99,950	93,900	73,500	58,050	45,800				
25.0	84,850	86,450	87,050	86,650	84,150	71,000	58,050	45,800	37,900	30,000		
30.0		70,450	71,050	70,700	72,000	62,850	56,550	45,800	37,900	30,000	25,250	21,200
35.0		58,000	58,350	59,900	59,050	56,150	50,350	45,800	37,900	30,000	25,250	21,200
40.0		48,650	48,300	49,800	49,000	50,350	45,000	43,550	37,900	30,000	25,250	21,200
45.0			41,450	42,300	41,500	42,800	40,750	38,750	37,900	30,000	25,250	21,200
50.0			36,350	36,150	37,350	36,450	36,250	34,800	34,450	30,000	25,250	21,200
55.0			31,300	31,200	32,400	31,550	31,400	31,900	31,200	29,400	25,250	21,200
60.0				27,300	28,400	27,500	28,250	28,050	27,300	27,300	24,850	21,200
65.0				25,350	25,000	24,150	24,850	24,650	24,050	23,900	23,150	20,600
70.0				17,600	22,200	21,700	22,400	21,850	21,800	21,100	21,650	19,300
75.0					20,200	19,600	20,000	19,600	19,400	19,200	19,250	18,100
80.0					19,250	18,500	18,000	18,050	17,400	17,900	17,250	17,000
85.0						16,900	16,350	16,400	15,800	16,300	15,700	15,700
90.0						15,400	14,950	14,850	14,900	14,750	14,300	14,200
95.0						13,050	14,200	13,500	13,600	13,400	12,950	12,850
100.0							13,100	12,350	12,550	12,350	11,800	11,650
105.0							10,900	11,250	11,500	11,300	10,700	10,600
110.0								10,600	10,550	10,350	9780	9650
115.0								9480	9680	9490	8910	8790
120.0									8900	8710	8130	8010
125.0									8190	7990	7420	7290
130.0									7770	7340	6770	6640
135.0										6750	6170	6050
140.0										6200	5620	5500
145.0										5710	5120	4990
150.0											4650	4530
155.0											4230	4100
160.0												3700

*Requires special equipment.

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The individual crane's load chart, operating instructions and other instructional plates must be read and understood prior to operating the crane.

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Load chart

Main boom, extension and insert

169.3 ft
Fixed lengths

34.5 ft - 57.6 ft
Manual offsettable swingaway

26.2 ft
Insert

48,500 lb

100%
23 ft

360°

Pounds

Feet	34.5 ft			57.6 ft			83.8 ft		
	0°	20°	45°	0°	20°	45°	0°	20°	45°
40.0	10,750								
45.0	10,750			6660					
50.0	10,750	10,900		6660					
55.0	10,750	10,900		6660			6040		
60.0	10,750	10,900	11,200	6660			6040		
65.0	10,750	10,900	11,200	6660			6040		
70.0	10,750	10,900	11,200	6660	7190		6040		
75.0	10,750	10,900	11,200	6660	7190		6040		
80.0	10,750	10,900	11,200	6660	7190	6090	6040		
85.0	10,750	10,900	11,050	6660	7190	6010	6040	6410	
90.0	10,750	10,850	10,900	6660	7190	5930	6040	6410	
95.0	10,450	10,250	10,300	6660	7170	5860	6040	6410	4880
100.0	9820	9660	9750	6660	7020	5800	6040	6240	4730
105.0	9240	9110	9220	6660	6880	5740	6040	6020	4600
110.0	8700	8610	8720	6660	6750	5690	6040	5820	4470
115.0	8200	8130	8250	6660	6620	5620	6040	5630	4350
120.0	7540	7690	7810	6660	6510	5560	6040	5450	4240
125.0	6830	7280	7400	6470	6400	5490	5800	5280	4130
130.0	6180	6590	6860	6110	6160	5440	5460	5120	4030
135.0	5580	5960	6190	5760	5830	5390	5150	4970	3930
140.0	5030	5370	5570	5410	5520	5350	4850	4830	3830
145.0	4520	4830		4890	5230	5310	4570	4690	3740
150.0	4050	4330		4410	4950	5190	4300	4470	3660
155.0	3610	3870		3970	4540	4920	3860	4220	3580
160.0	3200	3430		3560	4080	4420	3440	3980	3500
165.0	2820	3020		3170	3660	3940	3050	3630	3430
170.0	2470	2640		2810	3260		2680	3220	3360
175.0	2140	2280		2470	2880		2340	2850	3170
180.0	1840	1950		2160	2520		2020	2490	2770
185.0	1550	1630		1860	2190		1720	2150	2400
190.0	1260			1580	1870		1430	1840	
195.0				1320	1570		1170	1540	
200.0				1080	1280			1250	

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Working range
Main boom

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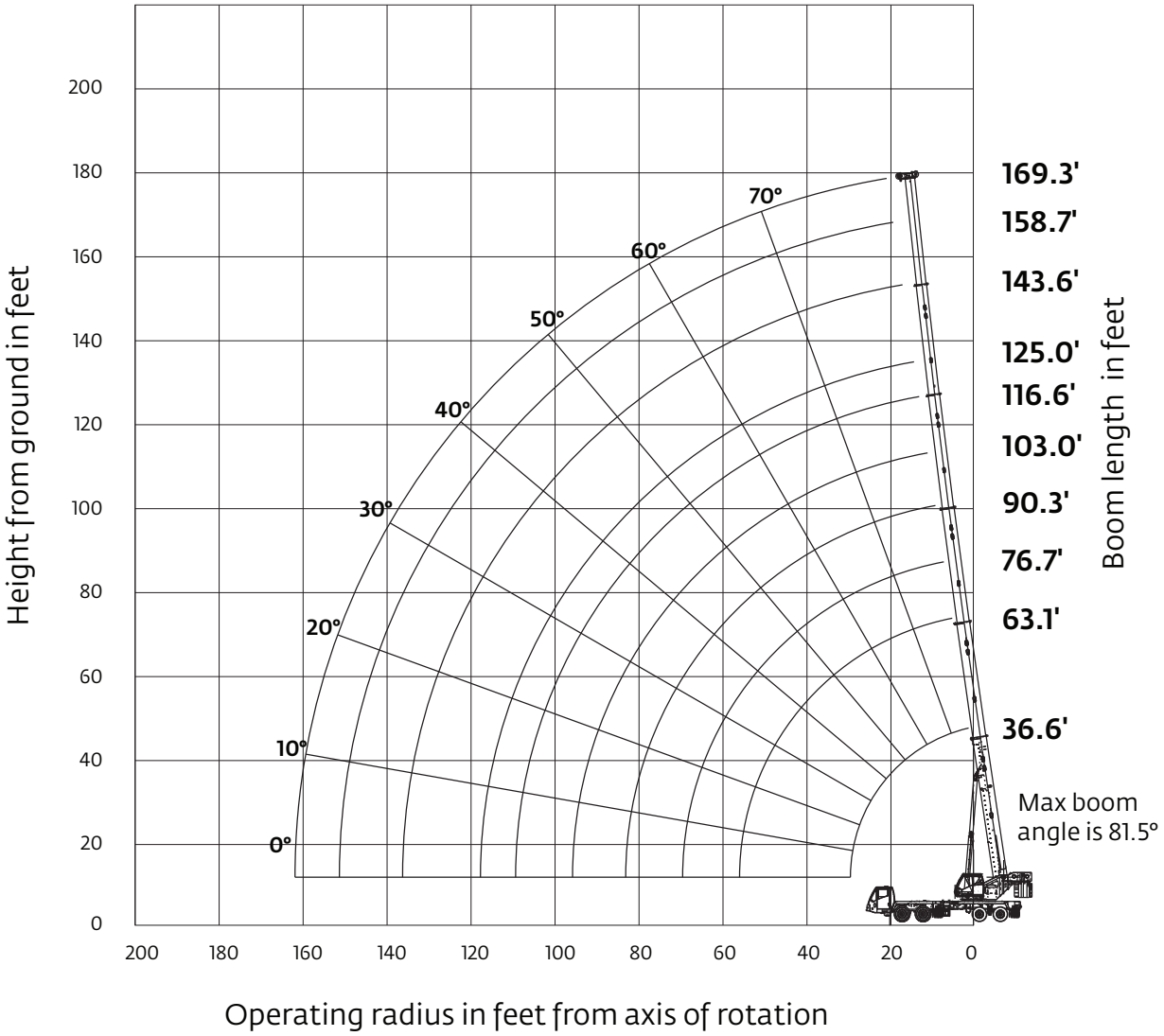
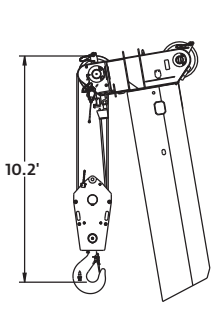
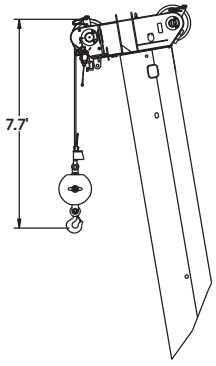
36.6 ft - 169.3 ft main boom







Dimensions are for the largest Grove furnished hook block and overhaul ball, with anti-two block activated.

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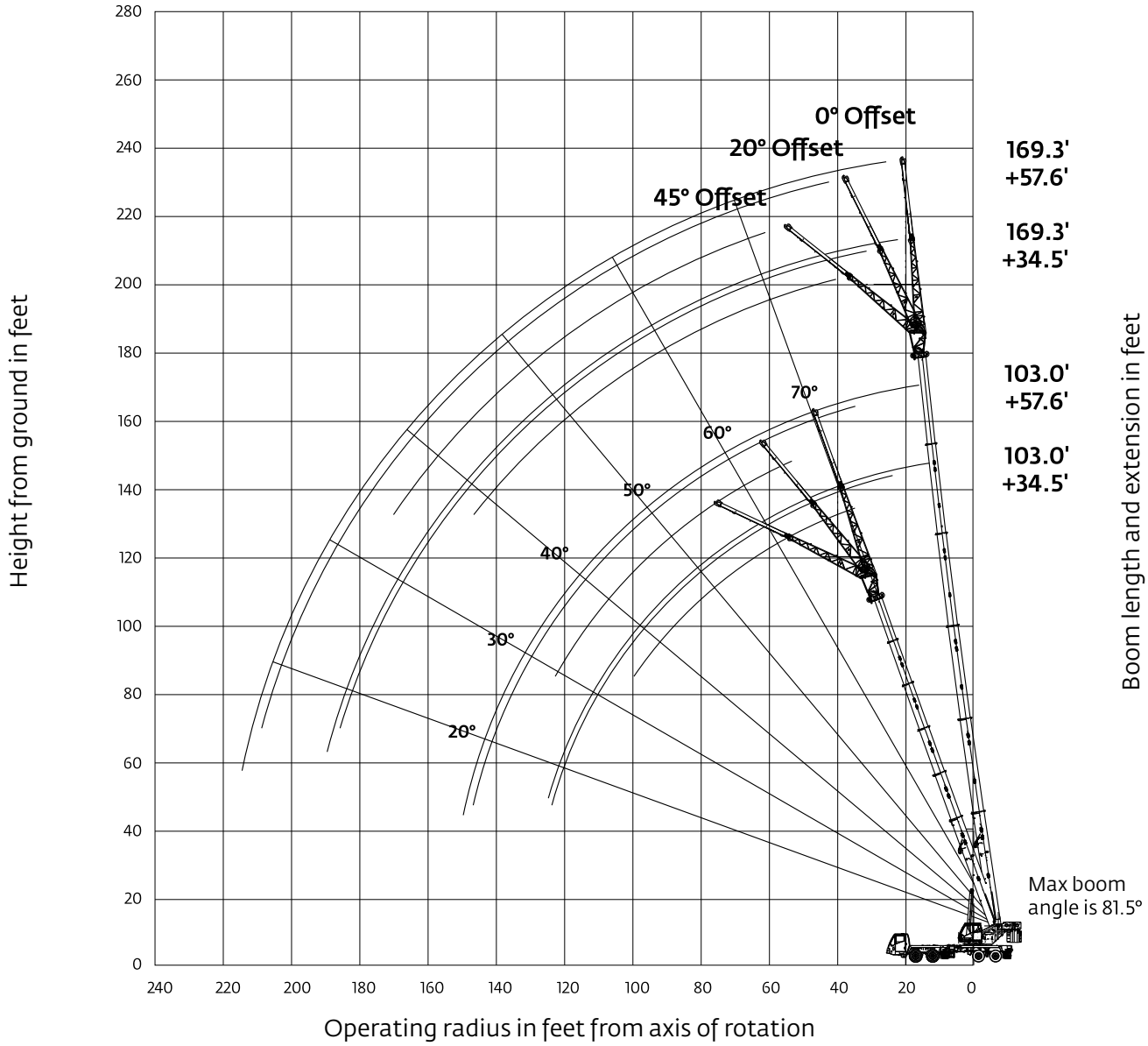
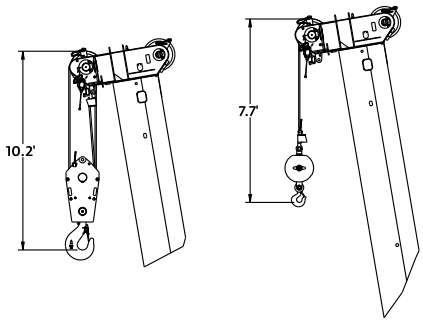
36.6 ft - 169.3 ft main boom, 34.5 ft - 57.6 ft hydraulic or manual offsettable extension





Dimensions are for the largest grove furnished hook block and overhaul ball, with anti-two block activated.

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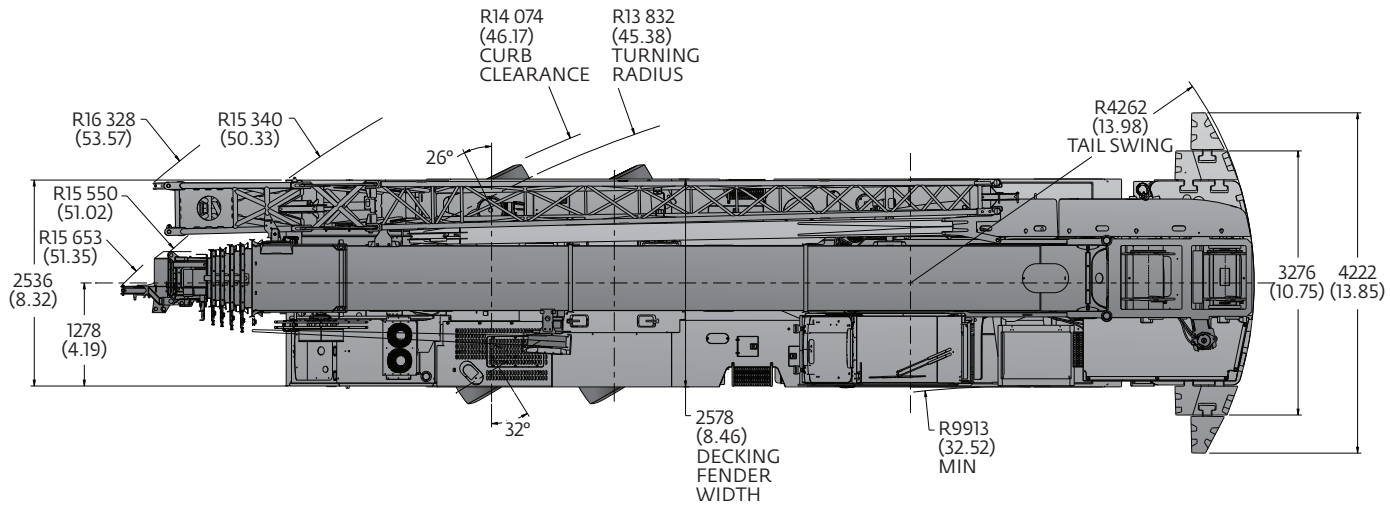
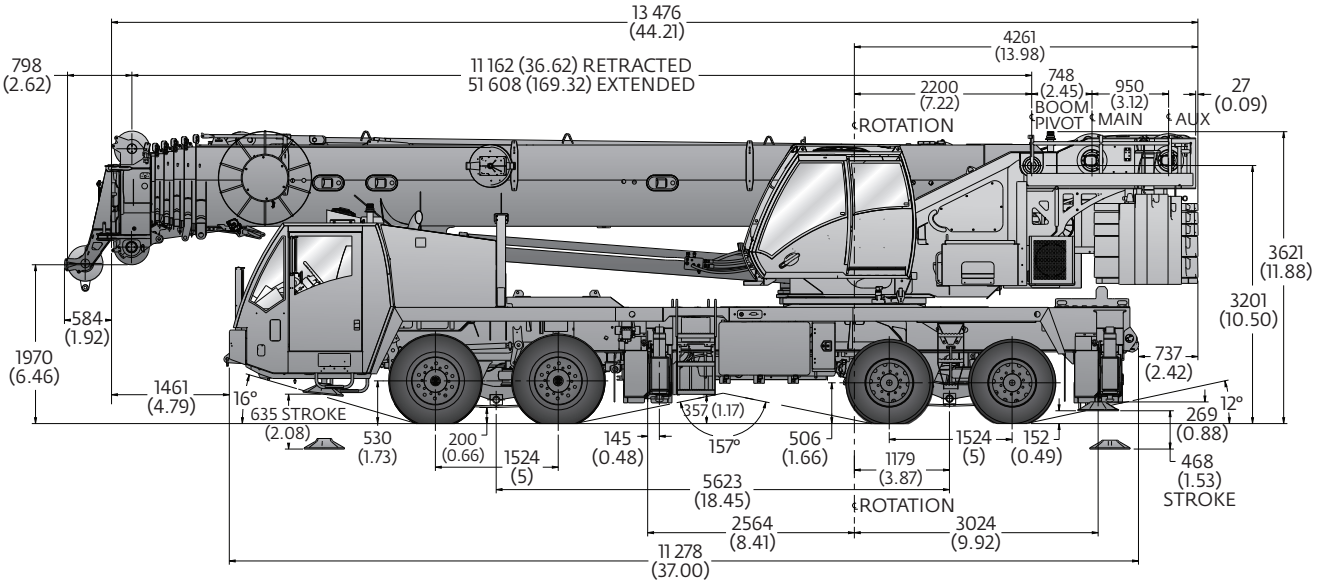
Dimensions





Dimensions shown in mm (ft)

Auxiliary boom nose	86 kg (190 lb)

Hook blocks and overhaul weights:	
100 t (110 USt), seven-sheave	1140 kg (2513 lb) +
75 t (83 USt), five-sheave	722 kg (1592 lb) +
45 t (50 USt), three-sheave	560 kg (1235 lb) +
26 t (28 USt), one-sheave	323 kg (712 lb) +
11 t (12 USt) overhaul weight	294 kg (648 lb) +

+ Refer to rating plate for actual weight.

When lifting over extension and/or jib combinations, deduct total weight of all load handling devices reeved over main boom nose directly from swingaway or jib capacity.

Hoists	Cable specs	Permissible line pulls	Nominal cable length
Main	19 mm (3/4 in) 35x7 Class Rotation Resistant Min. Breaking Strength 38 918 kg (85,800 lb)	7784 kg (17,160 lb)	250 m (820 ft)
Main	22 mm (7/8 in) K-100™ Synthetic rope Min. Breaking Strength 31 800 kg (84,000 lb)	7620 kg (16,800 lb)	257 m (843 ft)
Auxiliary	19 mm (3/4 in) 35x7 Class Rotation Resistant Min. Breaking Strength 38 918 kg (85,800 lb)	7764 kg (17,160 lb)	177 m (581 ft)
Auxiliary	22 mm (7/8 in) K-100™ Synthetic rope Min. Breaking Strength 31 800 kg (84,000 lb)	7620 kg (16,800 lb)	184 m (604 ft)

The approximate weight of 19 mm (3/4 in) wire rope is 2.2 kg/m (1.5 lb/ft)

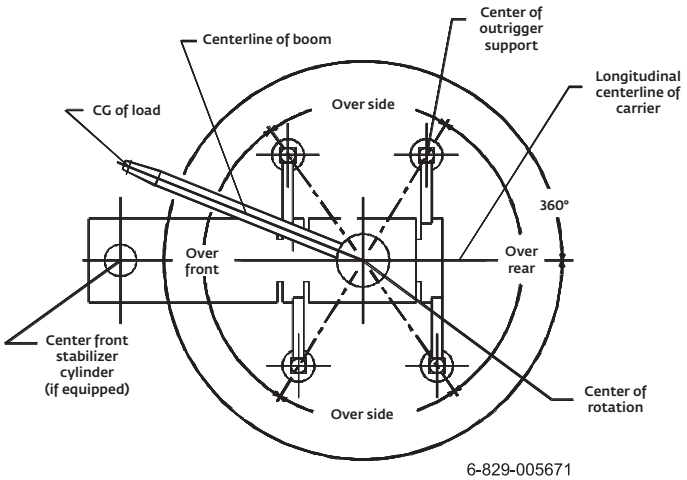
Hoist performance			
Wire rope layer	Hoist line pull	Drum rope capacity m (ft)	
	Available*	Layer	Total
1	10 900 kg (24,000 lb)	33,5 m (110 ft)	33,5 m (110 ft)
2	10 000 kg (22,100 lb)	36,6 m (120 ft)	70,1 m (230 ft)
3	9250 kg (20,400 lb)	39,7 m (130 ft)	109,9 m (360 ft)
4	8700 kg (19,100 lb)	42,8 m (141 ft)	152,7 m (501 ft)
5	8000 kg (17,700 lb)	45,9 m (151 ft)	198,6 m (652 ft)
6	7550 kg (16,600 lb)	49,0 m (161 ft)	247,6 m (812 ft)

*Max lifting capacity

19 mm 35x7 Class: 7784 kg (17,160 lb)

Working area diagram

Bold lines determine the limiting position of any load for operation within working areas indicated.



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