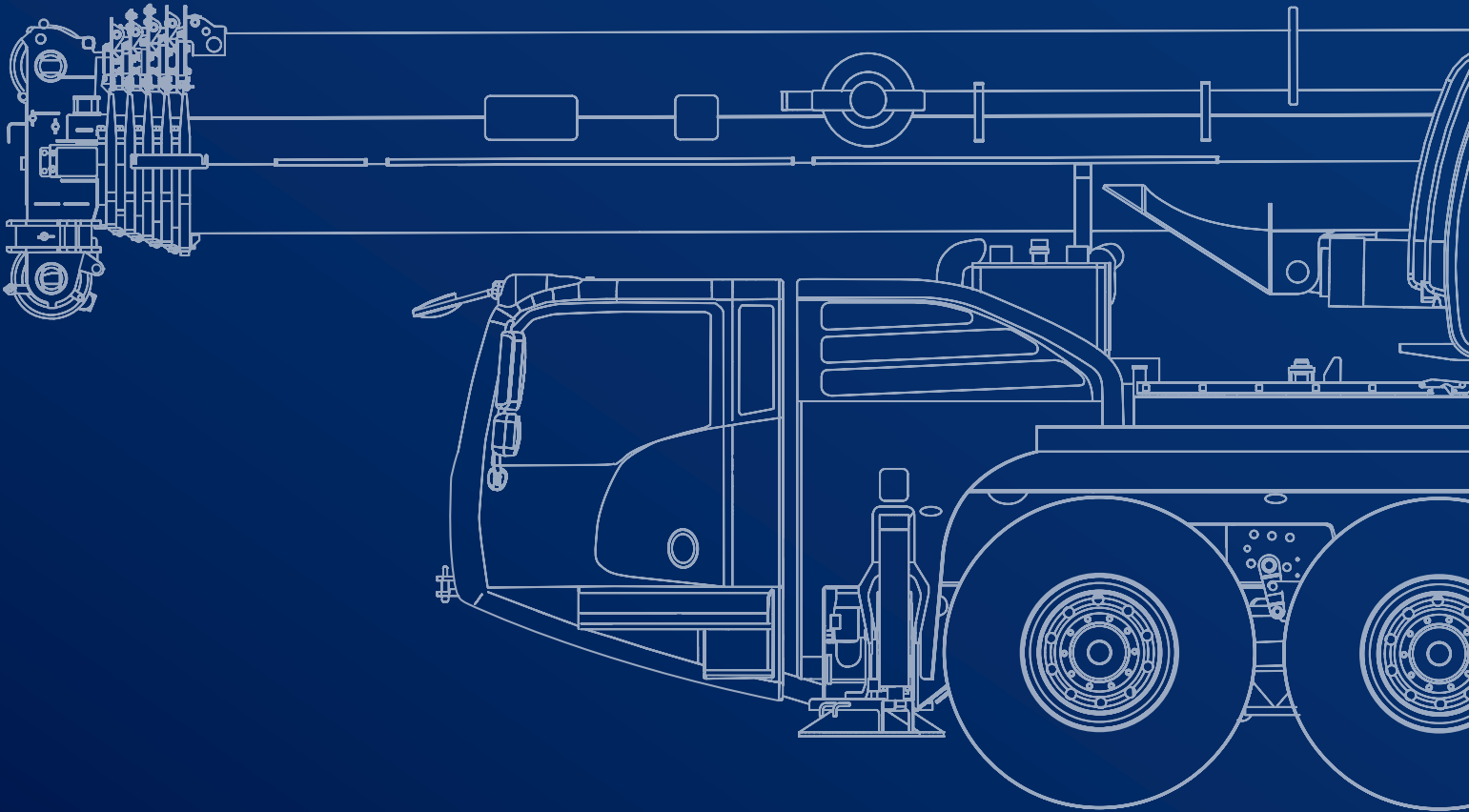


AC 4.100L-1

120 US TON MAX. CRANE CAPACITY



- Suitable for alternative fuels





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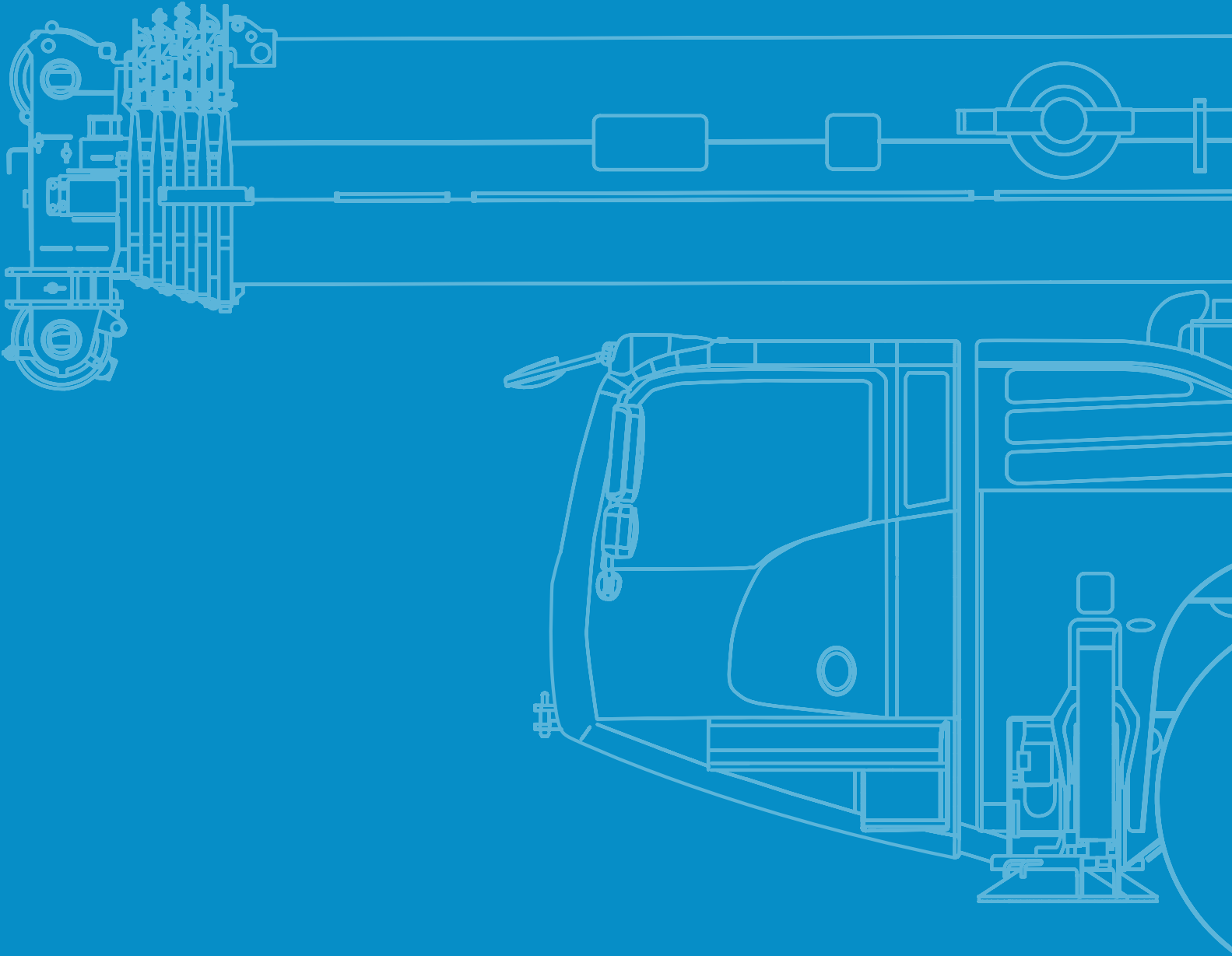
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Key



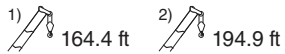
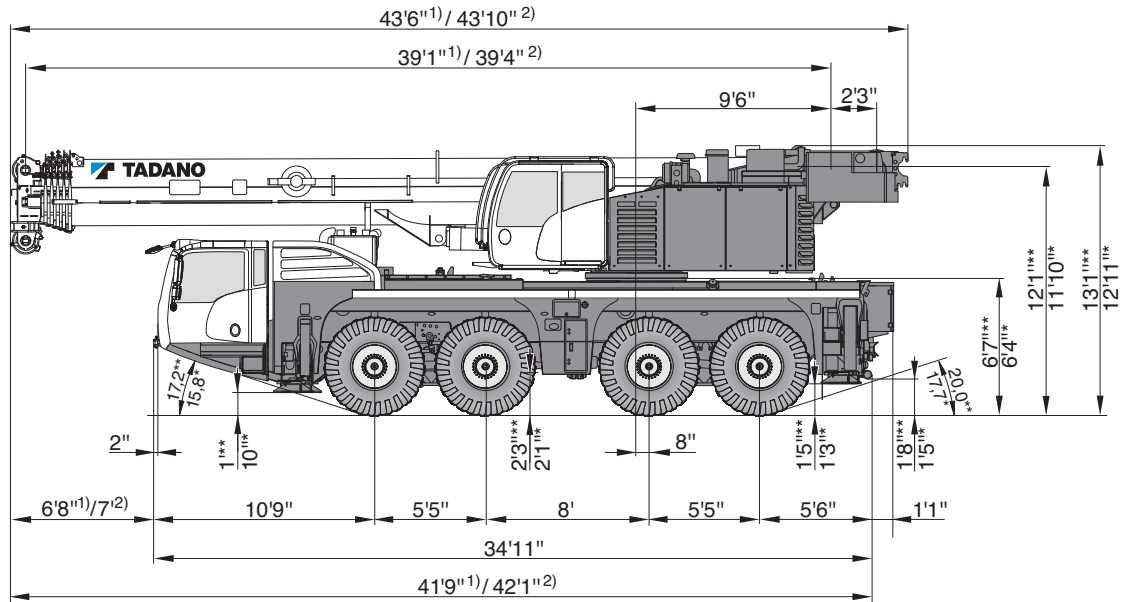
	Counterweight		Transport storage HAV at main boom
	Lifting capacities on outriggers · 360°		Dolly
	Radius		Working speeds
	Main boom		Slewing
	Folding swing-away jib		Max. line pull
	Runner		Rope diameter
	Adapter		Rope length
	Max. axle loads		Hook block
	Mechanism		Number of lines
	Tires		Possible load of hook block
	Hook block		Weight of hook block
	Hoist		Distance head sheave axle – hook ground
	Travel speed		Number of sheaves in hook block
	Gradeability		Max. outrigger load
	Off road / On road		Length of stroke (support cylinders)
	Boom telescoping		Additional parts for hydraulic system
	Boom elevation		Payload incl. rear storage box

GENERAL TECHNICAL DATA

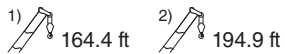
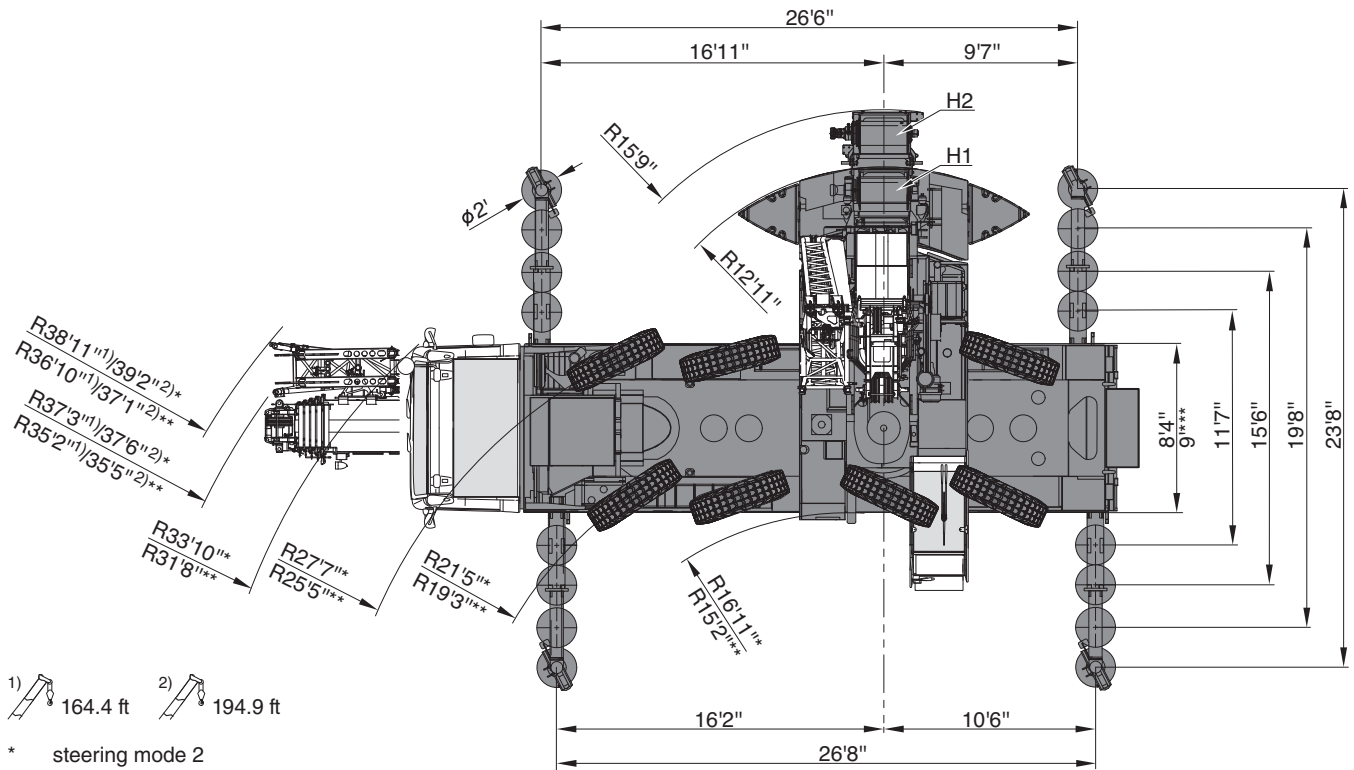


General

Vehicle dimensions

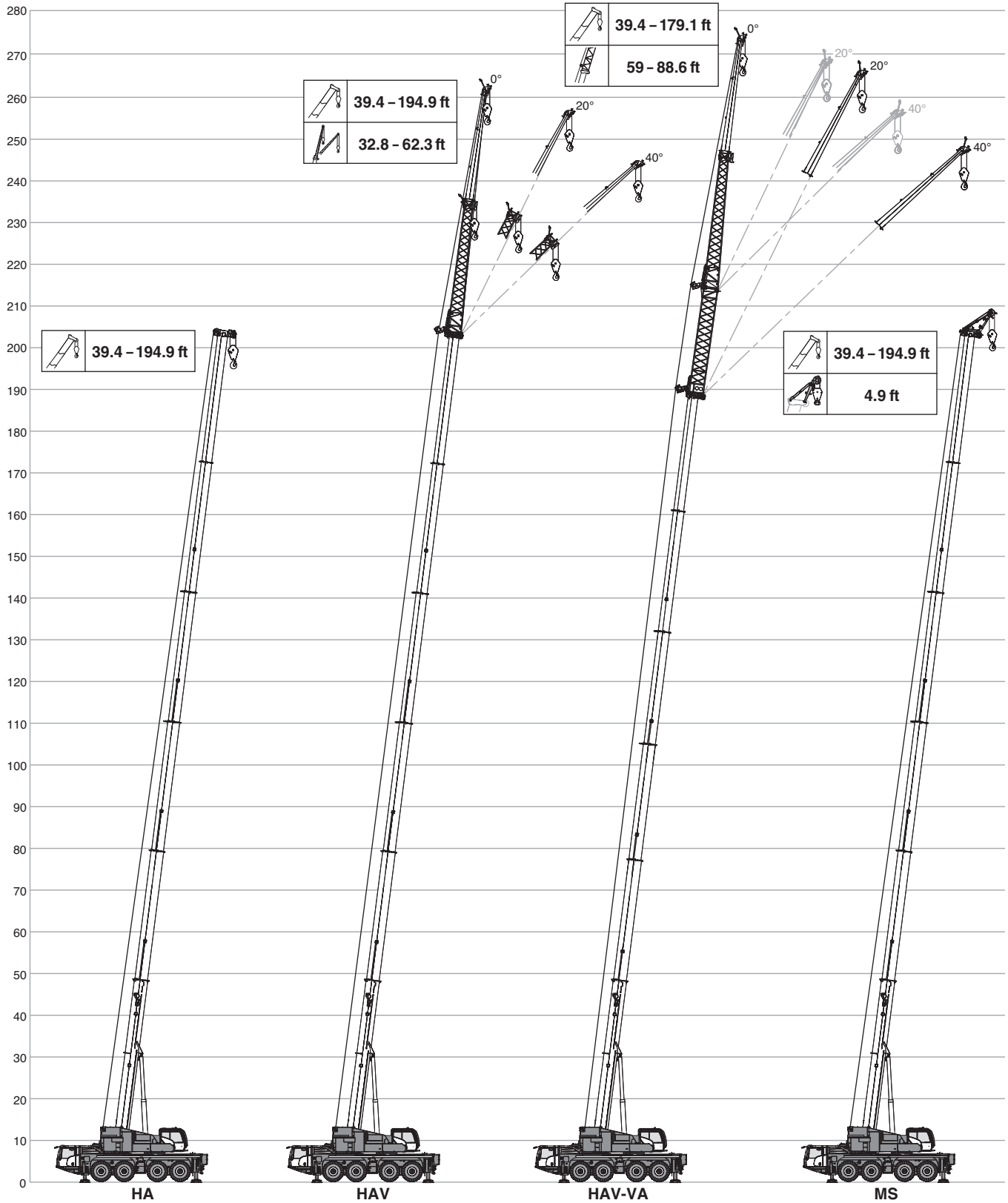


- * 385/95 R25
- ** 445/95 R25 / 525/80 R25

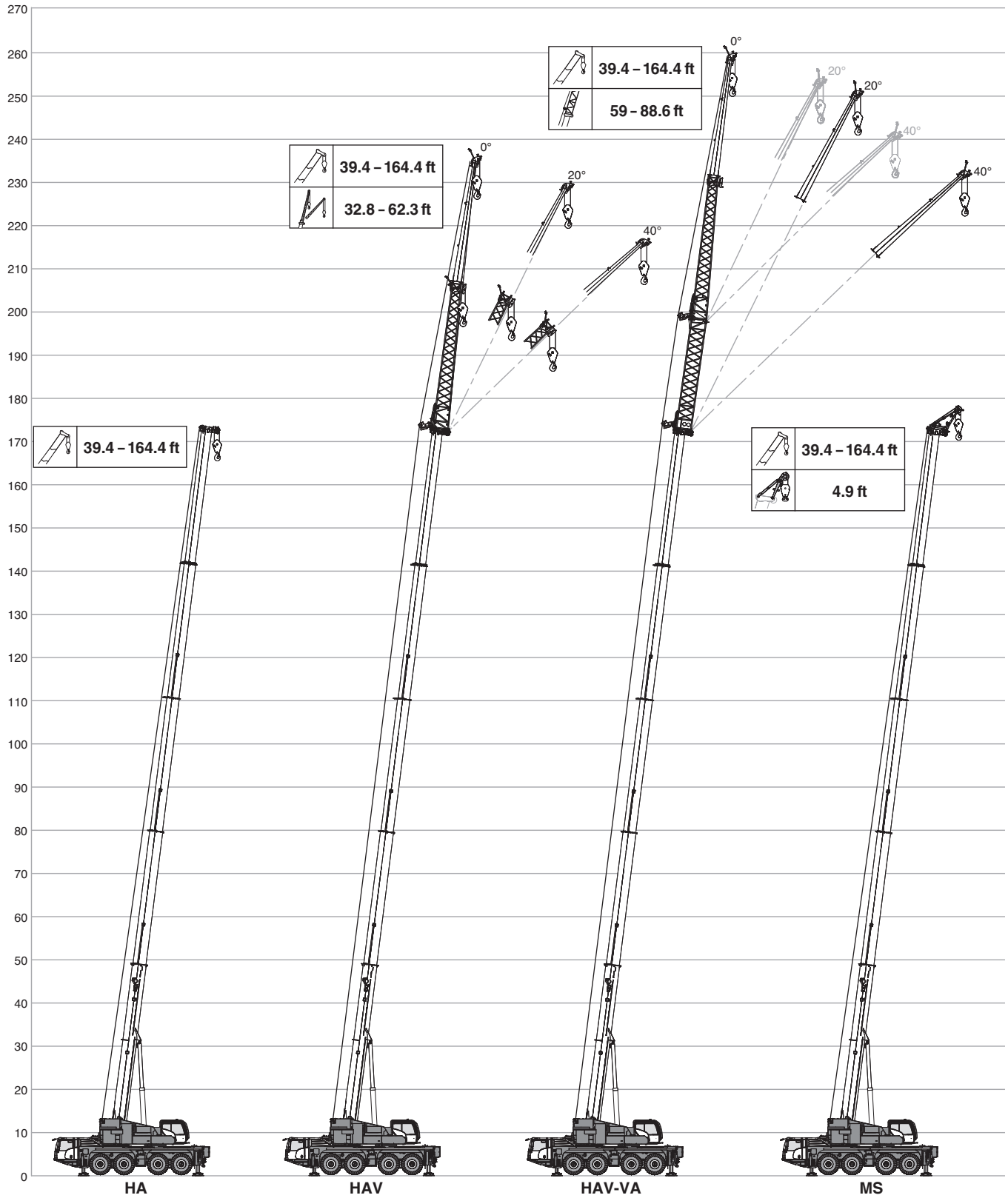


- * steering mode 2
- ** steering mode 3
- *** 525/80 R25

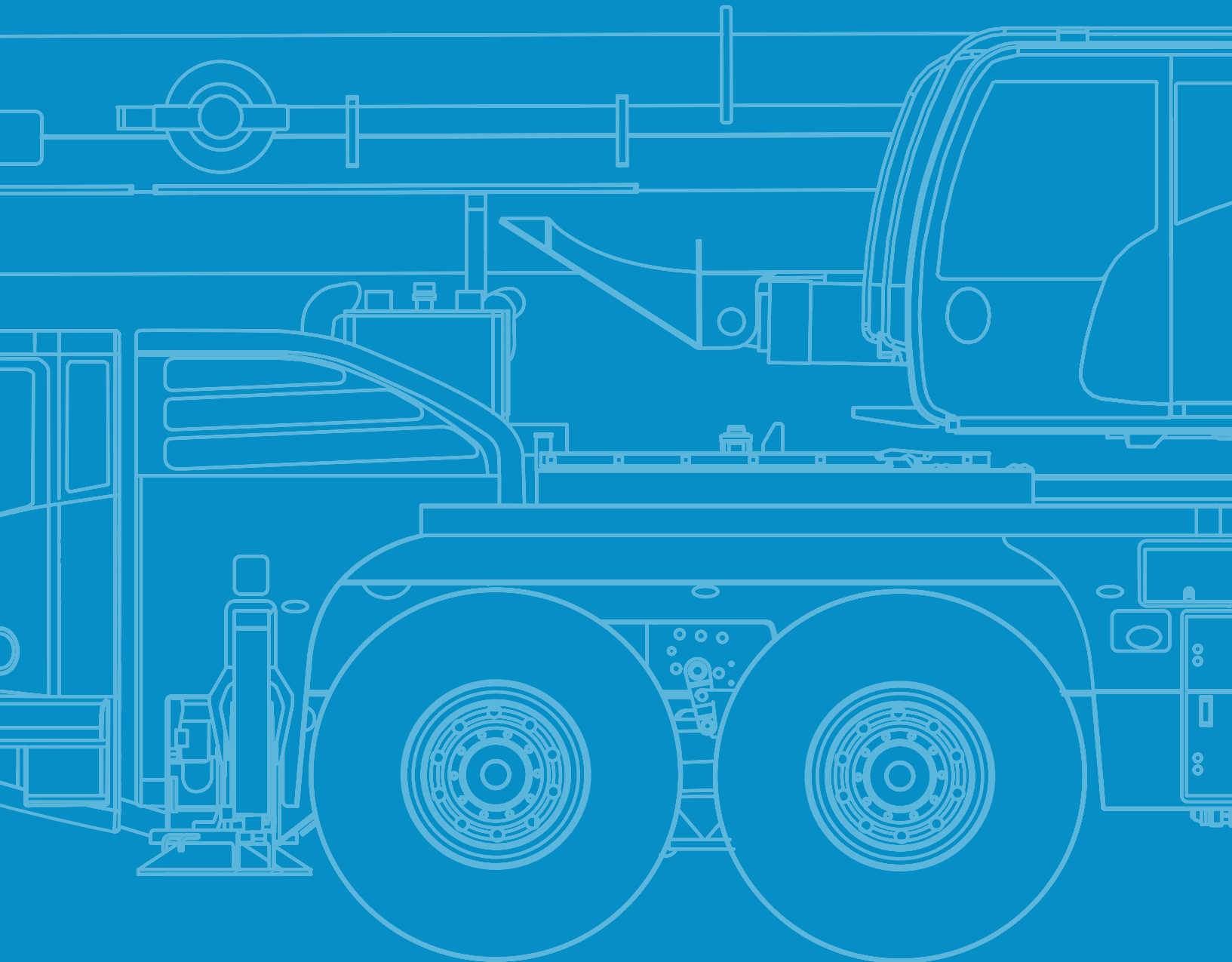
Boom combinations













Boom combinations







TECHNICAL DATA FOR ON-ROAD AND OFF-ROAD DRIVING





On-road and off-road driving

Axle loads													
	Total			TELMA						HA 50	HA 60		
< 20,000 lbs	On request!												X
< 26,500 lbs	< 106,000 lbs	8 x 6 x 8	445/95R25	X	17,600 lbs	13,400 lbs	–	X	–	X	–	–	–
< 26,500 lbs	< 106,000 lbs	8 x 6 x 8	445/95R25	X	17,600 lbs	9,500 lbs	62.3 ft	X	–	X	–	–	–
< 36,400 lbs	< 143,300 lbs	8 x 6 x 8	445/95R25	X	110,200 lbs	42,500 lbs	62.3 ft*	X	X	X	–	1,320 lbs	–
< 26,500 lbs	< 106,000 lbs	8 x 6 x 8	445/95R25	X	110,200 lbs	9,500 lbs	–	X	X	–	X	1,320 lbs	–
< 26,500 lbs	< 106,000 lbs	8 x 6 x 8	445/95R25	–	17,600 lbs	9,500 lbs	32.8 ft	X	–	–	X	660 lbs	–
< 26,500 lbs	< 106,000 lbs	8 x 4 x 8	445/95R25	X	17,600 lbs	9,500 lbs	32.8 ft	X	–	–	X	880 lbs	–
< 36,400 lbs	< 145,500 lbs	8 x 6 x 8	445/95R25	X	110,200 lbs	42,500 lbs	62.3 ft*	X	X	–	X	1,320 lbs	–

Further configurations on request!
* hydraulic

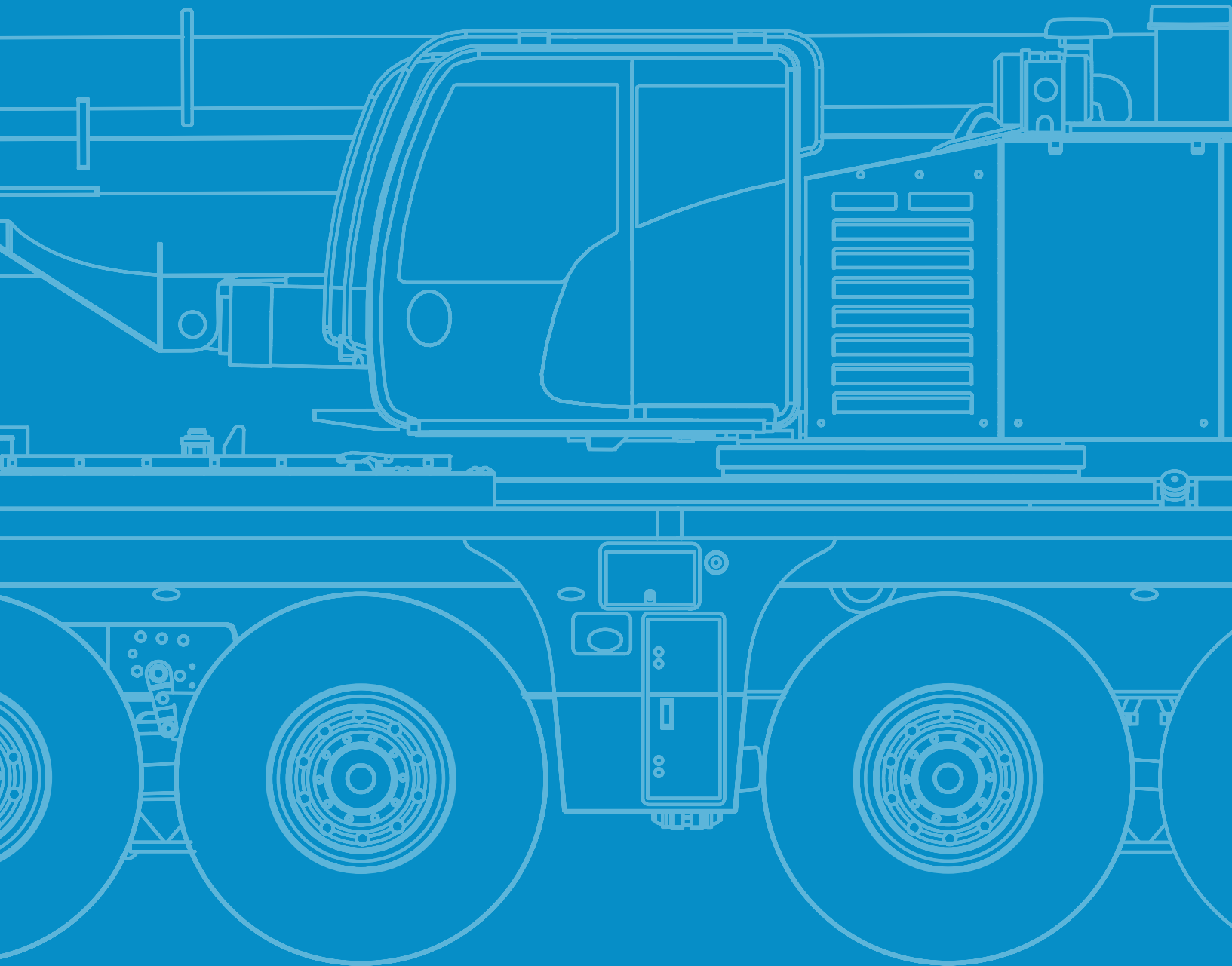
Speeds and gradeability			
	385/95 R 25 14.00 R 25	445/95 R 25 16.00 R 25	525/80 R 25 20.50 R 25
	46 %	42 %	42 %
	> 70 %	> 60 %	> 60 %
	max. 52.8 mph ¹⁾		

¹⁾ Depending on tire type, size and country specific legislation

Steering	
	1 Highway > 28 mph
	2 City < 28 mph
	3* Minimum turning radius < 3 mph
	4* Off-wall
	5* Crab steer mode
	6* All wheel steering

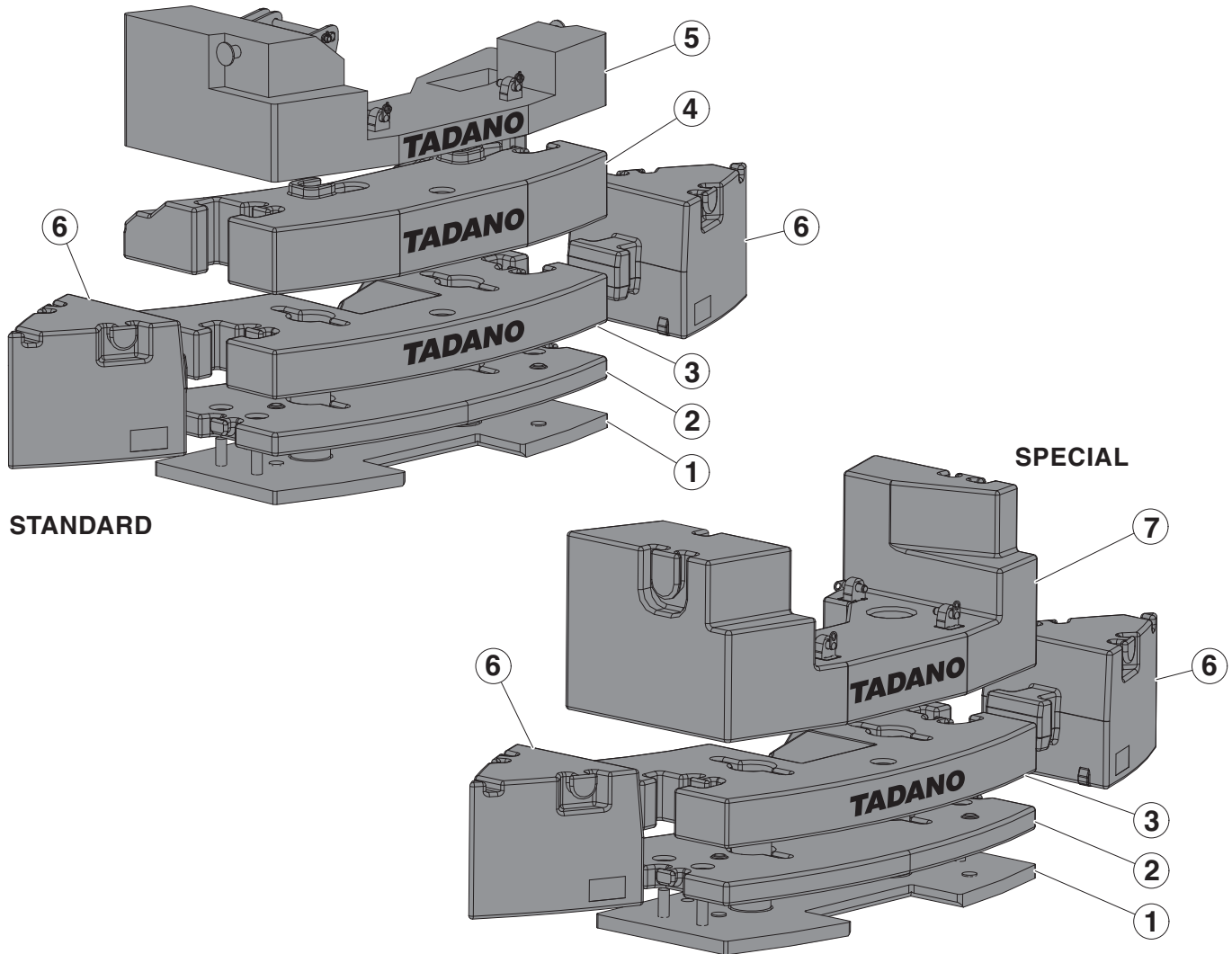
* must be activated

TECHNICAL DATA FOR TRANSPORT



Transportation

Counterweight

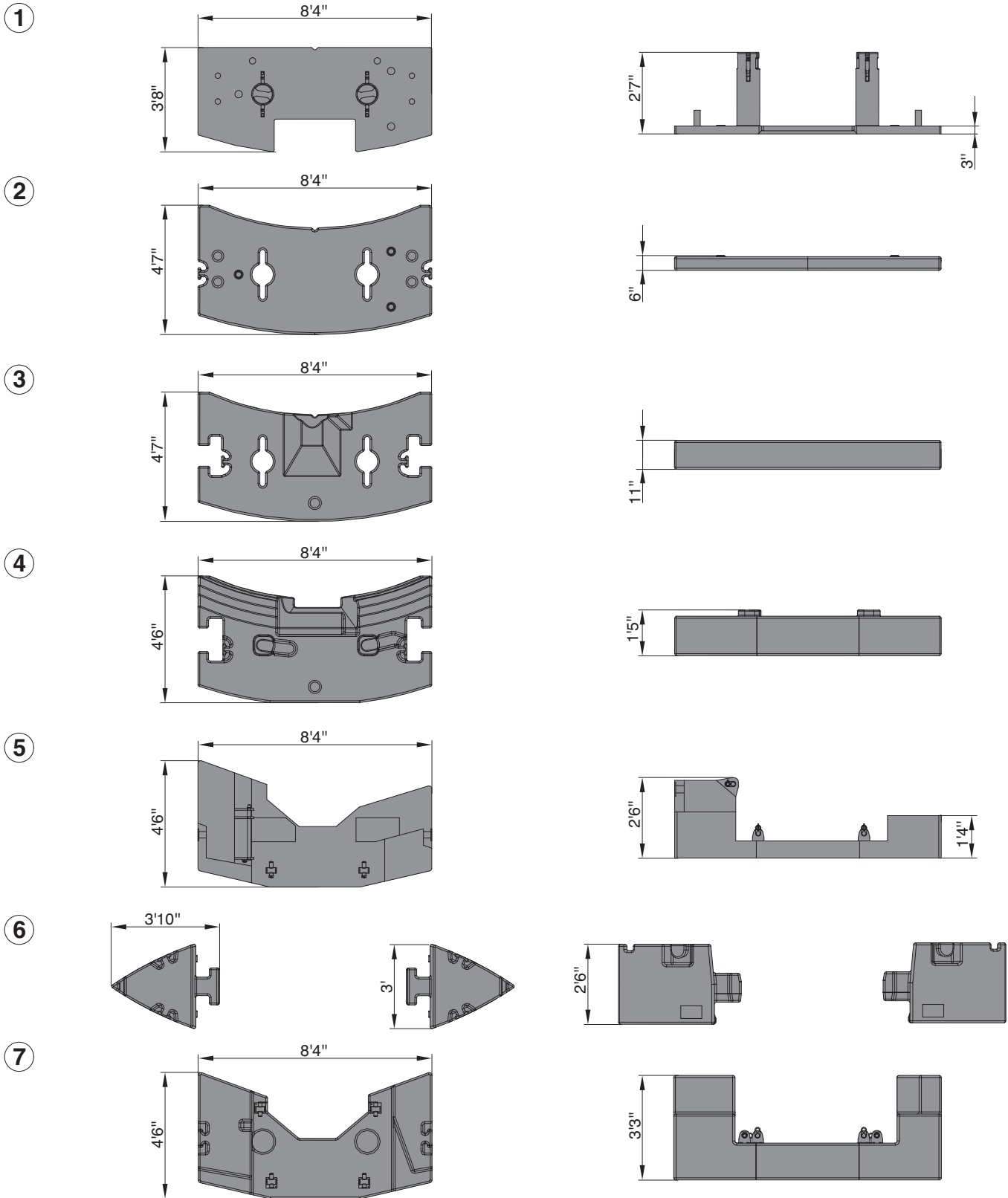


Configurations

lbs	STANDARD											SPECIAL				
	4,000	9,500	9,500	13,400	19,000	20,000	29,500	33,000	42,500	44,500	54,000	22,500	26,500	32,000	42,500	54,000
① 4,000 lbs	1		1	1	1	1	1	1	1	1	1		1	1	1	1
② 5,500 lbs			1		1	1	1	1	1	1	1			1	1	1
③ 10,600 lbs						1	1	1	1	1	1				1	1
④ 13,000 lbs								1	1	1	1					
⑤ 9,500 lbs		1		1	1		1		1		1					
⑥ 5,700 lbs										1	1					1
⑥ 5,700 lbs										1	1					1
⑦ 22,500 lbs												1	1	1	1	1

Transportation

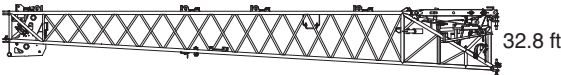
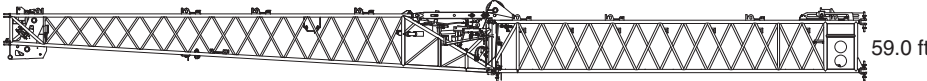
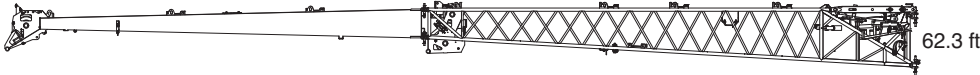
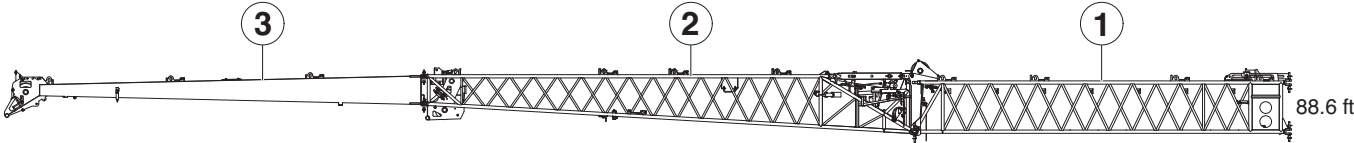
Counterweight



Transportation

Jib

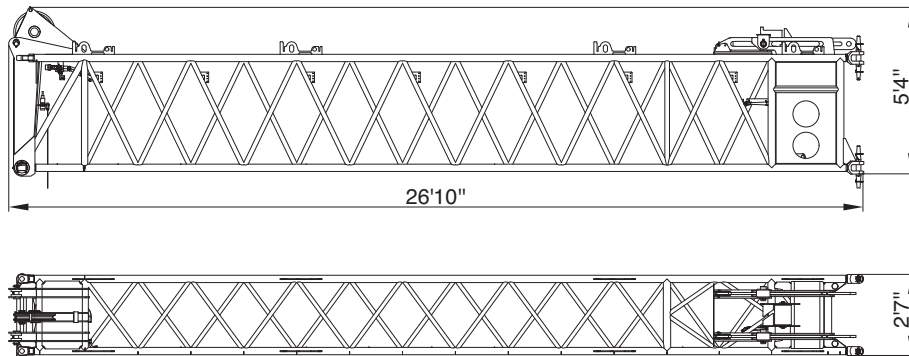
HAV / HAV-VA




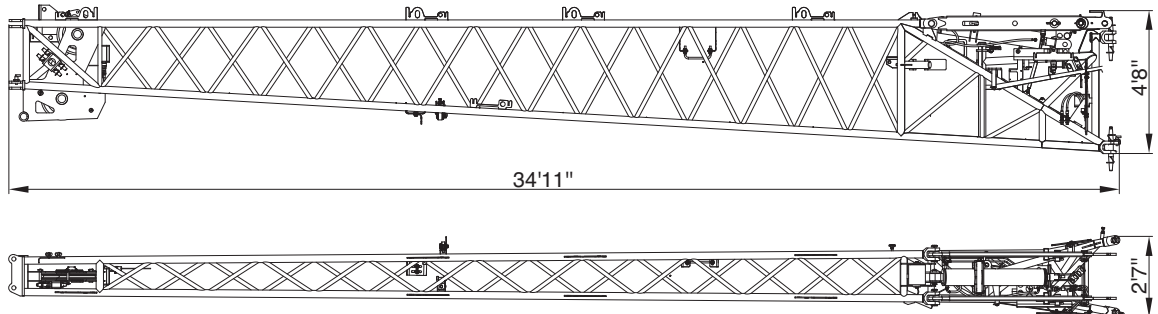
Transportation

Jib

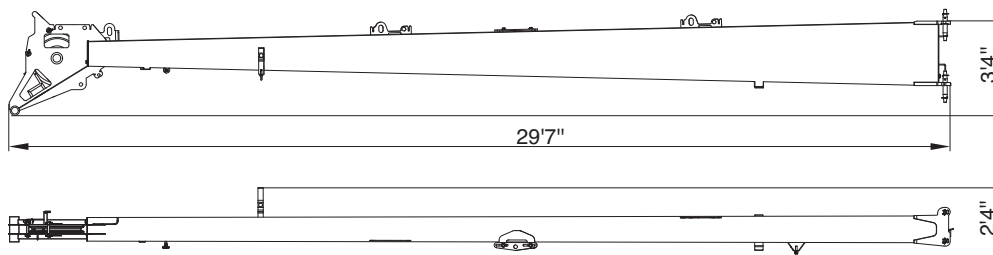
1  lbs
2,650



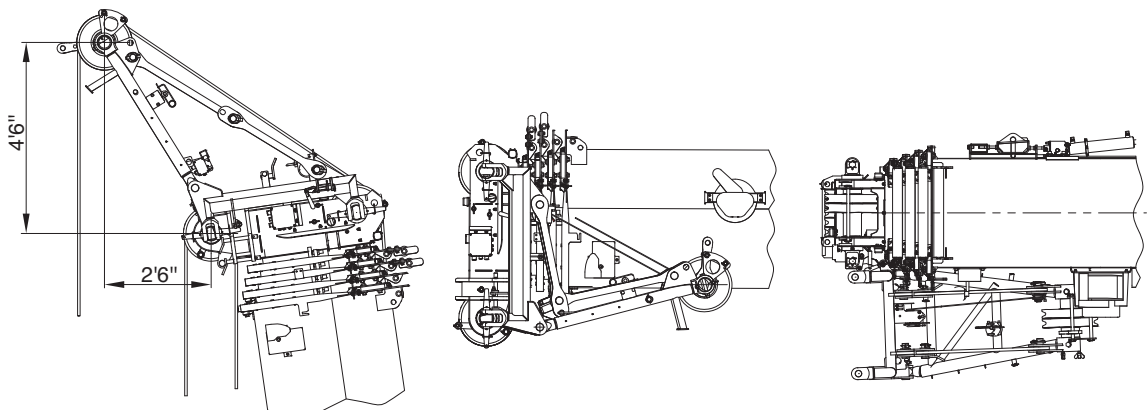
2  lbs
2,540 /
2,870 (HY)



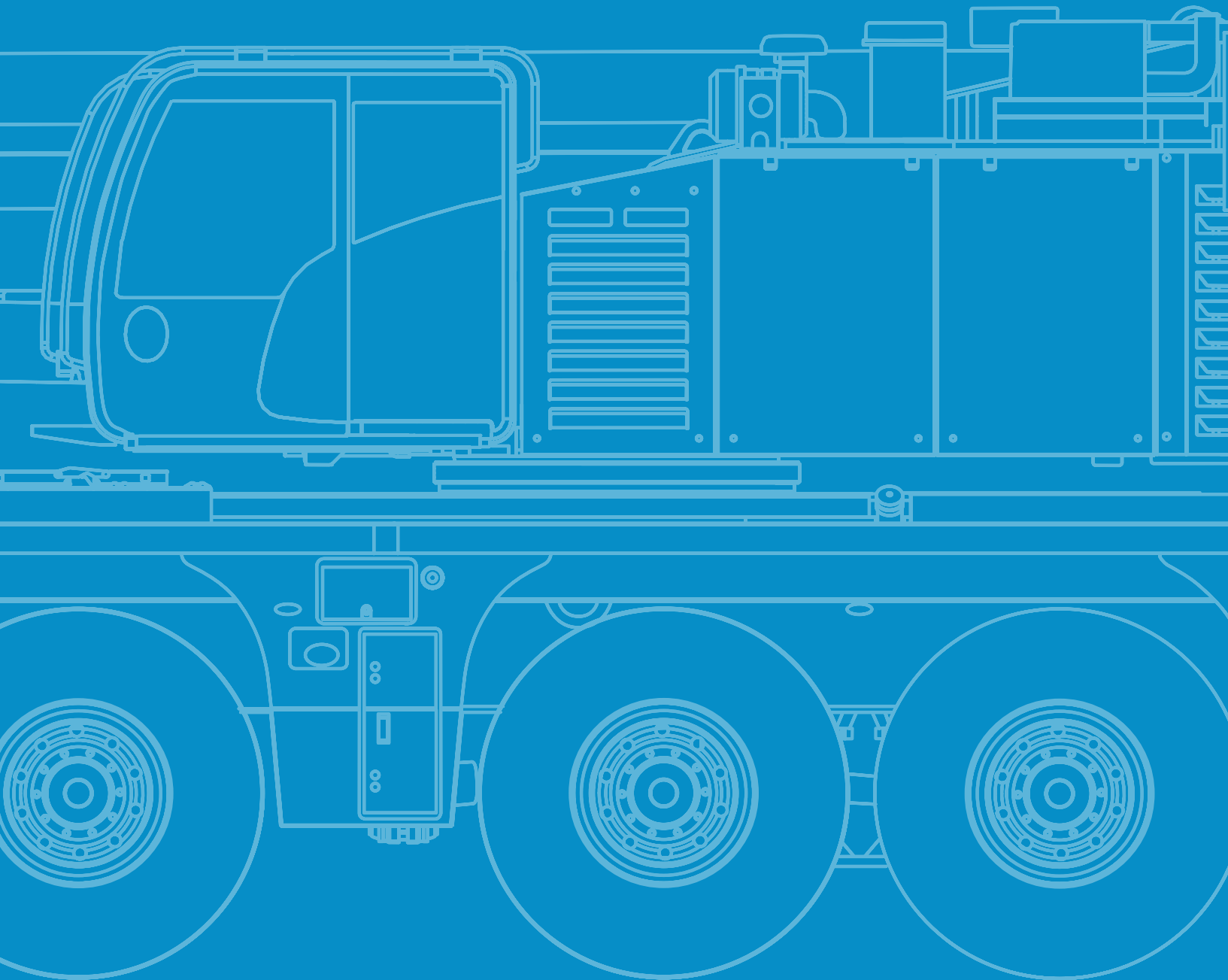
3  lbs
1,320



 lbs
770





TECHNICAL DATA FOR OPERATION




Operation

Main boom









 HA50	approx. 490 s (39.4 – 164.4 ft)		approx. 60 s (0° - 82°)
 HA60	approx. 590 s (39.4 – 194.9 ft)		approx. 60 s (0° - 82°)




Slewing

	1,9 min ⁻¹
---	-----------------------

Hoist







				
 1	361 ft/min	14,500 lbf	0.72"	870 ft
 2	361 ft/min	14,500 lbf	0.72"	870 ft

Outrigger cylinders

		
 Max.	94,800 lbs	134,500 lbs
	22.4"	25.2"




Hook Blocks



					
17,600 lbs	15,000 lbs	–	1	375 lbs	3.3 ft
44,100 lbs	44,100 lbs	1	3	660 lbs	5.9 ft
110,200 lbs	101,200 lbs	3	7	1,320 lbs	5.9 ft
176,400 lbs	155,700 lbs	5	11	2,360 lbs	6.6 ft
220,500 lbs	176,400 lbs	7	13	2,320 lbs	6.6 ft

Operation




HA
(HA60)




54,000 lbs		26.6 ft x 23.6 ft														360°		ASME B30.5	
																			
(0°)		(ft)																	
39.4		39.4	53.5	67.3	81.4	95.5	109.6	123.4	132.5	146.7	163.7	165.4	167.0	179.1	194.9				
ft	1,000 lbs															ft			
8	240.0*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8		
10	175.1	161.2	157.4	153.0	130.5	-	-	-	-	-	-	-	-	-	-	-	10		
12	160.1	145.0	143.8	139.6	127.0	-	-	-	-	-	-	-	-	-	-	-	12		
14	147.3	130.8	131.4	128.3	121.9	103.8	-	-	-	-	-	-	-	-	-	-	14		
16	135.8	118.5	119.4	118.5	116.1	97.8	-	-	-	-	-	-	-	-	-	-	16		
18	125.0	108.6	109.5	110.1	108.8	92.3	69.8	-	-	-	-	-	-	-	-	-	18		
20	114.1	99.4	101.3	101.6	101.1	87.2	68.4	59.6	-	-	-	-	-	-	-	-	20		
24	92.3	85.3	87.1	87.5	86.9	81.2	65.6	55.1	-	-	-	-	-	-	-	-	24		
28	71.6	67.1	76.1	76.5	75.9	74.8	62.3	51.9	43.0	-	-	-	-	-	-	-	28		
32	-	-	67.0	67.3	66.8	65.7	58.7	49.5	41.2	33.9	23.9	26.2	25.0	-	-	-	32		
36	-	-	58.7	59.0	58.9	59.0	55.2	46.6	39.6	33.0	23.6	26.2	24.9	21.2	-	-	36		
40	-	-	-	51.3	53.1	52.4	51.3	43.6	37.8	32.2	23.3	26.2	24.9	21.2	16.3	-	40		
48	-	-	-	41.8	41.7	41.1	39.6	37.0	33.3	29.8	21.9	25.9	24.3	21.2	16.3	-	48		
56	-	-	-	25.7	33.0	32.3	31.0	31.5	28.9	26.7	19.7	24.3	22.9	20.9	16.3	-	56		
64	-	-	-	-	26.9	26.1	26.7	25.8	24.5	23.7	17.7	22.1	20.9	20.1	16.3	-	64		
72	-	-	-	-	17.7	22.3	22.6	21.3	21.9	20.3	15.9	19.9	19.0	18.8	16.1	-	72		
80	-	-	-	-	-	19.7	19.2	18.7	18.3	18.0	14.3	16.7	17.2	17.1	15.5	-	80		
88	-	-	-	-	-	9.3	16.3	16.6	15.6	15.6	13.1	13.9	15.3	14.7	14.2	-	88		
96	-	-	-	-	-	-	14.1	14.5	13.8	13.2	12.0	11.5	13.0	12.8	12.3	-	96		
104	-	-	-	-	-	-	8.9	12.6	12.3	11.9	10.9	9.5	11.0	11.0	10.4	-	104		
112	-	-	-	-	-	-	-	-	10.7	10.3	10.1	7.9	9.4	9.4	8.7	-	112		
120	-	-	-	-	-	-	-	-	9.4	8.7	8.9	6.5	7.9	8.1	7.2	-	120		
128	-	-	-	-	-	-	-	-	-	7.7	7.7	5.3	6.7	6.8	5.9	-	128		
136	-	-	-	-	-	-	-	-	-	6.6	6.6	4.2	5.5	5.8	4.9	-	136		
144	-	-	-	-	-	-	-	-	-	-	5.8	3.3	4.7	4.9	4.0	-	144		
152	-	-	-	-	-	-	-	-	-	-	-	-	3.9	3.9	3.2	-	152		
160	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	2.5	-	160		
168	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	168		

* Max. crane capacity – with additional special equipment

Operation

HA
(HA60)




42,500 lbs		26.6 ft x 23.6 ft								360° / Max.*				ASME B30.5		
		360°	Max.	360°	Max.	360°	Max.	360°	Max.	360°	Max.	360°	Max.	360°	Max.	
ft	ft	39.4ft	39.4ft	53.5ft	53.5ft	67.3ft	67.3ft	81.4ft	81.4ft	95.5ft	95.5ft	109.6ft	109.6ft	123.4ft	123.4ft	ft
1,000 lbs																
10	160.5	161.2	157.4	157.4	153.0	153.0	130.5	130.5	-	-	-	-	-	-	-	10
12	143.9	145.0	143.6	143.9	139.6	139.6	127.0	127.0	-	-	-	-	-	-	-	12
14	129.4	130.8	130.1	131.4	128.3	128.3	121.9	121.9	103.8	103.8	-	-	-	-	-	14
16	117.2	118.5	118.0	119.4	118.4	118.5	116.1	116.1	97.8	97.8	-	-	-	-	-	16
18	107.4	108.6	109.0	109.5	109.6	110.1	108.2	108.7	92.3	92.3	69.8	69.8	-	-	-	18
20	98.3	99.4	100.2	101.3	100.5	101.6	100.0	101.1	87.2	87.2	68.4	68.4	59.6	59.6	-	20
24	84.2	85.3	86.2	87.1	86.5	87.5	86.0	86.9	81.1	81.2	65.6	65.6	55.1	55.1	-	24
28	66.7	67.1	74.4	74.9	74.7	75.2	74.2	74.7	73.2	73.5	62.3	62.3	51.9	51.9	-	28
32	-	-	63.2	64.0	63.7	64.2	64.3	64.5	63.6	64.0	58.7	58.7	49.5	49.5	-	32
36	-	-	54.2	55.6	54.6	55.8	56.5	57.5	55.7	56.8	52.6	53.6	46.6	46.6	-	36
40	-	-	-	-	48.4	49.5	48.4	50.1	47.5	49.2	46.0	47.9	43.3	43.5	-	40
48	-	-	-	-	36.5	38.1	36.5	38.0	35.6	37.3	34.3	36.1	35.0	35.6	-	48
56	-	-	-	-	23.0	24.5	28.7	30.0	27.8	29.4	28.8	29.4	27.7	29.1	-	56
64	-	-	-	-	-	-	23.1	24.4	24.0	24.6	23.5	24.8	22.6	23.5	-	64
72	-	-	-	-	-	-	17.0	17.0	20.1	21.2	19.3	20.6	19.7	20.3	-	72
80	-	-	-	-	-	-	-	-	17.0	18.1	16.5	17.4	16.6	17.7	-	80
88	-	-	-	-	-	-	-	-	9.3	9.2	14.9	15.2	14.0	15.1	-	88
96	-	-	-	-	-	-	-	-	-	-	12.9	13.7	12.5	13.1	-	96
104	-	-	-	-	-	-	-	-	-	-	8.9	8.9	10.8	11.4	-	104




		360°	Max.	360°	Max.	360°	Max.	360°	Max.	360°	Max.	360°	Max.	360°	Max.	
ft	ft	132.5ft	132.5ft	146.7ft	146.7ft	163.7ft	163.7ft	165.4ft	165.4ft	167.0ft	167.0ft	179.1ft	179.1ft	194.9ft	194.9ft	ft
1,000 lbs																
28	43.0	43.0	-	-	-	-	-	-	-	-	-	-	-	-	-	28
32	41.2	41.2	33.9	33.9	23.9	26.2	26.2	26.2	25.0	25.0	-	-	-	-	-	32
36	39.6	39.6	33.0	33.0	23.6	26.2	26.2	26.2	24.9	24.9	21.2	21.2	-	-	-	36
40	37.8	37.8	32.2	32.2	23.3	26.2	26.2	26.2	24.9	24.9	21.2	21.2	16.3	16.3	-	40
48	32.4	33.0	29.8	29.8	21.9	25.9	25.9	25.9	24.3	24.3	21.2	21.2	16.3	16.3	-	48
56	26.7	27.4	25.5	26.5	19.7	24.3	24.3	24.3	22.9	22.9	20.9	20.9	16.3	16.3	-	56
64	22.7	23.6	21.9	22.6	17.7	22.1	20.9	22.1	20.9	20.9	20.1	20.1	16.3	16.3	-	64
72	18.6	19.9	18.6	19.7	15.9	19.0	17.1	18.4	18.4	19.0	17.7	18.8	16.1	16.1	-	72
80	16.4	16.8	15.9	16.8	14.3	16.6	13.9	15.2	15.2	16.6	15.3	15.9	14.2	15.4	-	80
88	14.0	14.9	13.5	14.4	13.1	14.0	11.2	12.6	12.6	14.0	12.9	13.8	11.8	13.3	-	88
96	12.0	13.1	11.4	12.6	11.6	12.0	9.0	10.5	10.5	11.8	10.7	11.9	9.8	11.2	-	96
104	10.2	11.3	9.8	10.8	9.9	10.9	7.3	8.6	8.8	9.9	8.8	10.1	8.1	9.5	-	104
112	8.7	9.8	9.0	9.2	8.3	9.4	5.9	7.2	7.2	8.5	7.4	8.5	6.5	7.9	-	112
120	7.5	8.6	7.7	8.3	7.0	8.1	4.6	5.9	5.9	7.2	6.1	7.2	5.3	6.6	-	120
128	-	-	6.6	7.6	5.9	7.0	3.5	4.8	4.8	6.2	5.1	6.2	4.2	5.5	-	128
136	-	-	4.8	5.9	5.0	6.1	2.6	3.9	3.9	5.1	4.0	5.3	3.3	4.4	-	136
144	-	-	-	-	4.2	5.1	1.8	3.1	3.1	4.2	3.1	4.4	2.5	3.6	-	144
152	-	-	-	-	-	-	-	-	2.4	-	2.5	3.6	-	3.0	-	152
160	-	-	-	-	-	-	-	-	-	-	1.8	2.9	-	2.3	-	160

* Max. values are valid only for specific superstructure positions

Operation

HA
(HA60)

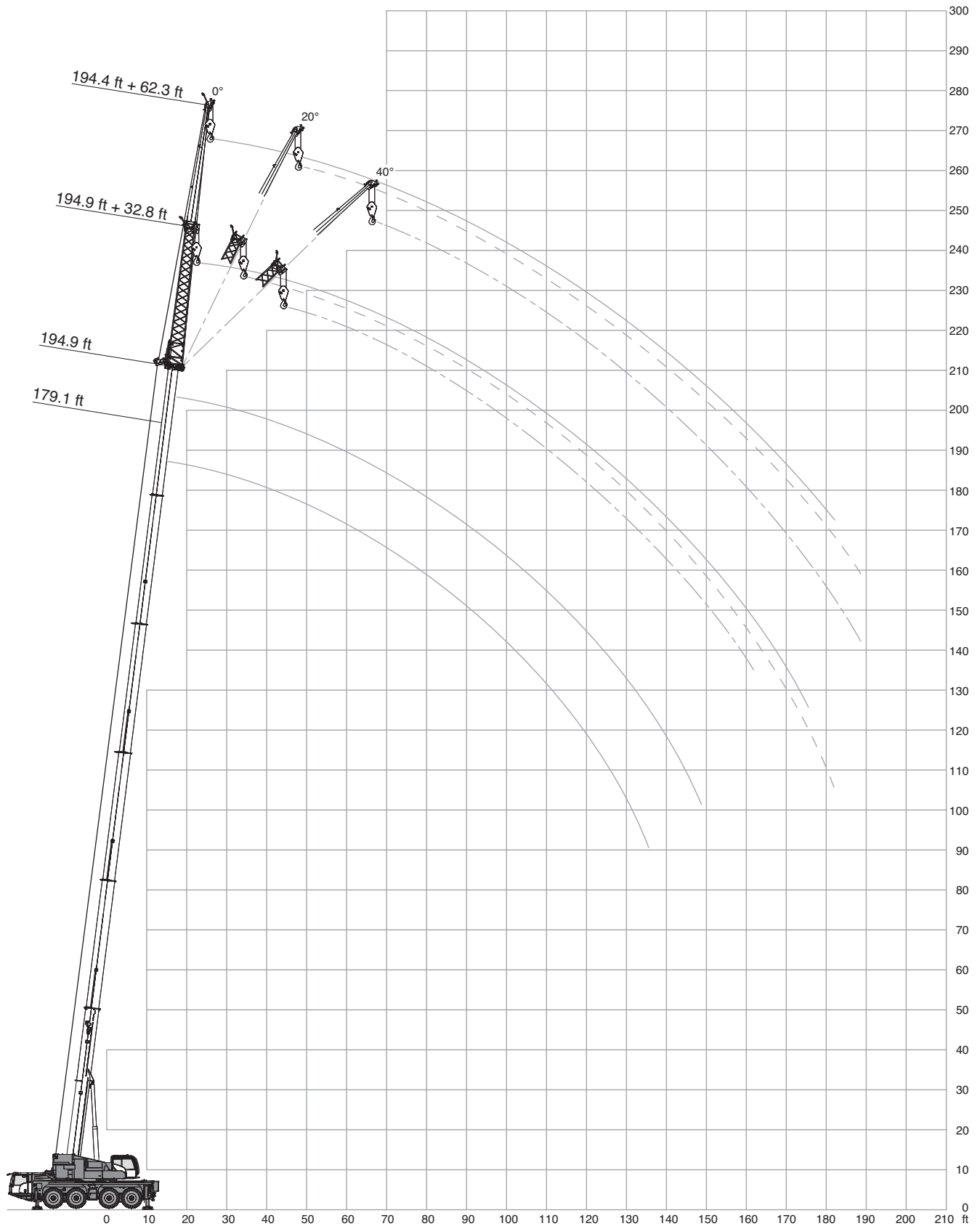
9,500 lbs		26.6 ft x 23.6 ft								360° / Max.*				ASME B30.5		
		360° 39.4ft	Max. 39.4ft	360° 53.5ft	Max. 53.5ft	360° 67.3ft	Max. 67.3ft	360° 81.4ft	Max. 81.4ft	360° 95.5ft	Max. 95.5ft	360° 109.6ft	Max. 109.6ft	360° 123.4ft	Max. 123.4ft	
1,000 lbs																
ft																ft
10	156.5	161.2	157.1	157.4	153.0	153.0	130.5	130.5	-	-	-	-	-	-	-	10
12	139.4	145.0	140.1	143.9	139.1	139.6	127.0	127.0	-	-	-	-	-	-	-	12
14	125.3	130.8	126.0	131.4	125.7	128.3	121.9	121.9	103.8	103.8	-	-	-	-	-	14
16	113.4	118.5	115.1	119.4	115.5	118.5	110.6	116.1	96.8	97.8	-	-	-	-	-	16
18	101.4	105.5	103.7	106.6	102.5	107.3	95.7	105.9	85.2	92.3	69.8	69.8	-	-	-	18
20	89.2	92.6	92.2	95.0	89.3	95.5	81.6	94.8	73.8	86.9	67.7	68.4	59.5	59.6	59.6	20
24	66.3	74.8	70.1	76.8	68.8	77.2	67.0	76.6	61.9	75.4	57.0	65.6	52.0	55.1	55.1	24
28	48.8	61.6	53.2	64.0	55.3	64.2	53.9	65.7	50.4	64.6	48.0	61.7	44.5	51.9	51.9	28
32	-	-	42.0	54.3	43.3	56.2	43.3	56.0	42.5	55.5	41.3	54.4	38.6	49.5	49.5	32
36	-	-	34.5	47.3	35.9	49.2	35.9	49.1	36.1	48.5	35.5	46.9	33.9	44.1	44.1	36
40	-	-	-	-	29.5	42.9	31.1	42.8	30.8	42.1	30.2	40.1	30.0	39.4	39.4	40
48	-	-	-	-	22.4	32.9	23.1	32.9	23.1	32.0	23.3	32.7	23.1	31.3	31.3	48
56	-	-	-	-	17.0	20.4	17.8	25.7	18.1	26.8	17.8	26.3	17.6	25.2	25.2	56
64	-	-	-	-	-	-	13.9	21.6	14.2	22.0	13.9	21.4	13.7	21.7	21.7	64
72	-	-	-	-	-	-	11.1	17.0	11.3	18.2	11.3	18.3	10.6	17.9	17.9	72
80	-	-	-	-	-	-	-	-	9.2	15.5	9.0	15.9	8.5	15.2	15.2	80
88	-	-	-	-	-	-	-	-	7.6	9.2	7.2	13.5	6.7	13.4	13.4	88
96	-	-	-	-	-	-	-	-	-	-	5.8	11.7	5.3	11.5	11.5	96
104	-	-	-	-	-	-	-	-	-	-	4.5	8.9	4.1	10.1	10.1	104

		360° 132.5ft	Max. 132.5ft	360° 146.7ft	Max. 146.7ft	360° 163.7ft	Max. 163.7ft	360° 165.4ft	Max. 165.4ft	360° 167.0ft	Max. 167.0ft	360° 179.1ft	Max. 179.1ft	360° 194.9ft	Max. 194.9ft	
1,000 lbs																
ft																ft
28	39.6	43.0	-	-	-	-	-	-	-	-	-	-	-	-	-	28
32	35.9	41.2	31.7	33.9	23.9	26.2	26.2	26.2	25.0	25.0	-	-	-	-	-	32
36	31.6	39.6	28.4	33.0	23.6	26.2	24.7	26.2	24.9	24.9	21.2	21.2	-	-	-	36
40	28.8	37.3	27.0	32.2	23.2	26.2	22.6	26.2	24.4	24.9	20.9	21.2	16.3	16.3	16.3	40
48	22.0	29.8	21.1	28.5	20.3	25.9	16.7	25.9	18.6	24.3	18.2	21.2	15.4	16.3	16.3	48
56	17.4	25.2	17.1	24.0	15.5	22.9	12.3	22.9	14.1	22.9	13.7	20.9	11.8	16.3	16.3	56
64	13.9	20.7	13.3	20.4	11.9	19.9	9.0	18.3	10.6	19.9	10.1	18.4	8.5	16.3	16.3	64
72	10.9	17.9	10.4	17.3	9.3	16.4	6.4	14.6	8.0	16.4	7.5	15.9	6.0	14.2	14.2	72
80	8.7	15.2	8.1	14.6	7.2	14.3	4.4	11.6	5.9	13.2	5.7	12.8	4.2	11.1	11.1	80
88	7.0	12.8	6.3	12.4	5.6	12.3	2.9	9.4	4.4	11.0	4.2	10.5	2.9	8.8	8.8	88
96	5.5	11.1	4.9	10.8	4.2	10.3	-	7.5	3.0	8.9	2.9	8.5	-	7.1	7.1	96
104	4.3	9.5	3.7	9.8	3.0	8.6	-	5.9	1.9	7.4	1.9	7.0	-	5.5	5.5	104
112	3.3	8.1	2.6	8.1	2.0	7.2	-	4.8	-	6.1	-	5.7	-	4.3	4.3	112
120	-	6.6	1.9	6.8	-	6.1	-	3.7	-	5.0	-	4.7	-	3.3	3.3	120
128	-	-	-	5.7	-	5.1	-	2.6	-	4.1	-	3.9	-	2.5	2.5	128
136	-	-	-	4.0	-	4.1	-	1.7	-	3.1	-	3.0	-	1.7	1.7	136
144	-	-	-	-	-	3.3	-	-	-	2.2	-	2.4	-	-	-	144

* Max. values are valid only for specific superstructure positions

Operation


HAV
(HA60)





Operation

HAV

(HA60)

54,000 lbs		26.6 ft x 23.6 ft		360°			ASME B30.5						
 194.9 ft													
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°*		0°	20°	40°	0°	20°	40°
1,000 lbs													
48	8.4	-	-	-	-	-	40	11.0	-	-	-	-	-
56	8.4	-	-	4.9	-	-	48	11.0	-	-	6.4	-	-
64	8.4	8.4	-	4.9	-	-	56	11.0	-	-	6.4	-	-
72	8.4	8.4	-	4.9	-	-	64	11.0	11.0	-	6.4	-	-
80	8.4	8.4	8.4	4.9	4.9	-	72	11.0	11.0	11.0	6.4	-	-
88	8.4	8.4	8.4	4.9	4.9	-	80	11.0	11.0	11.0	6.4	6.4	-
96	8.4	8.4	8.2	4.9	4.9	-	88	11.0	11.0	11.0	6.4	6.4	-
104	8.4	8.0	7.8	4.9	4.9	5.1	96	10.7	11.0	10.7	6.4	6.4	6.4
112	7.6	7.7	7.3	4.9	4.9	5.1	104	9.6	10.5	10.4	6.4	6.4	6.4
120	6.4	7.0	6.9	4.9	4.9	4.9	112	8.1	8.9	9.6	6.4	6.4	6.2
128	5.3	5.9	6.3	4.6	4.7	4.5	120	7.1	7.4	8.0	6.1	6.4	6.0
136	4.2	4.9	5.3	3.9	4.5	4.2	128	6.1	6.3	6.5	5.5	6.3	5.8
144	3.1	3.8	4.2	3.1	4.2	4.0	136	5.0	5.5	5.8	4.7	5.7	5.6
152	2.3	3.0	3.2	2.3	3.4	3.7	144	4.0	4.5	4.9	4.2	4.7	5.5
160	-	2.2	2.4	-	2.6	3.4	152	3.2	3.6	3.9	3.2	3.8	4.5
168	-	-	-	-	-	2.7	160	2.5	2.8	3.1	2.6	3.4	3.6
176	-	-	-	-	-	1.9	168	-	-	-	-	2.8	3.0
							176	-	-	-	-	2.1	2.5

 109.6 ft													
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
20	29.1	-	-	-	-	-	10	29.1	-	-	21.1	-	-
24	28.7	-	-	14.7	-	-	12	29.1	-	-	20.9	-	-
28	28.2	-	-	14.6	-	-	14	29.1	-	-	20.8	-	-
32	27.7	-	-	14.4	-	-	16	29.1	29.1	-	20.6	-	-
36	27.1	24.4	-	14.2	-	-	18	29.1	29.1	-	20.3	-	-
40	26.6	23.2	19.1	14.1	-	-	20	29.1	28.9	-	20.0	-	-
48	25.4	21.1	18.0	13.8	-	-	24	29.1	26.6	-	19.2	-	-
56	23.9	19.5	16.8	13.4	12.1	-	28	29.1	24.5	20.1	18.5	-	-
64	21.8	18.1	16.0	13.1	11.6	-	32	28.9	22.8	19.2	17.6	-	-
72	19.9	16.8	15.2	12.8	11.0	8.6	36	26.9	21.5	18.4	16.7	13.5	-
80	17.7	15.7	14.5	12.3	10.3	8.3	40	24.6	20.3	17.8	15.7	12.7	-
88	15.0	14.9	13.9	11.6	9.7	8.1	48	21.1	18.3	16.9	13.8	11.6	-
96	13.2	13.4	13.4	10.8	9.2	7.9	56	18.5	17.1	-	12.2	10.4	9.2
104	11.7	11.7	12.0	10.2	8.9	7.7	64	-	-	-	11.0	9.6	8.7
112	10.0	10.5	-	9.4	8.3	7.7	72	-	-	-	9.9	9.1	8.2
120	8.8	8.9	-	8.7	7.9	7.4	80	-	-	-	9.2	8.6	-
128	8.2	4.5	-	7.8	7.6	7.3	88	-	-	-	8.6	-	-
136	4.1	-	-	6.9	7.1	7.3							
144	-	-	-	5.8	6.4	2.9							
152	-	-	-	5.0	4.5	-							
160	-	-	-	2.3	-	-							


 39.4 ft													
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
10	29.1	-	-	21.1	-	-	10	29.1	-	-	21.1	-	-
12	29.1	-	-	20.9	-	-	12	29.1	-	-	20.9	-	-
14	29.1	-	-	20.8	-	-	14	29.1	-	-	20.8	-	-
16	29.1	29.1	-	20.6	-	-	16	29.1	29.1	-	20.6	-	-
18	29.1	29.1	-	20.3	-	-	18	29.1	29.1	-	20.3	-	-
20	29.1	28.9	-	20.0	-	-	20	29.1	28.9	-	20.0	-	-
24	29.1	26.6	-	19.2	-	-	24	29.1	26.6	-	19.2	-	-
28	29.1	24.5	20.1	18.5	-	-	28	29.1	24.5	20.1	18.5	-	-
32	28.9	22.8	19.2	17.6	-	-	32	28.9	22.8	19.2	17.6	-	-
36	26.9	21.5	18.4	16.7	13.5	-	36	26.9	21.5	18.4	16.7	13.5	-
40	24.6	20.3	17.8	15.7	12.7	-	40	24.6	20.3	17.8	15.7	12.7	-
48	21.1	18.3	16.9	13.8	11.6	-	48	21.1	18.3	16.9	13.8	11.6	-
56	18.5	17.1	-	12.2	10.4	9.2	56	18.5	17.1	-	12.2	10.4	9.2
64	-	-	-	11.0	9.6	8.7	64	-	-	-	11.0	9.6	8.7
72	-	-	-	9.9	9.1	8.2	72	-	-	-	9.9	9.1	8.2
80	-	-	-	9.2	8.6	-	80	-	-	-	9.2	8.6	-
88	-	-	-	8.6	-	-	88	-	-	-	8.6	-	-


 *191.9 ft


Operation

HAV

(HA60)

42,500 lbs		26.6 ft x 23.6 ft		360°			ASME B30.5						
 194.9 ft													
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°*		0°	20°	40°	0°	20°	40°
1,000 lbs													
48	8.4	-	-	-	-	-	40	11.0	-	-	-	-	-
56	8.4	-	-	4.9	-	-	48	11.0	-	-	6.4	-	-
64	8.4	8.4	-	4.9	-	-	56	11.0	-	-	6.4	-	-
72	8.4	8.4	-	4.9	-	-	64	11.0	11.0	-	6.4	-	-
80	8.4	8.4	8.4	4.9	4.9	-	72	11.0	11.0	11.0	6.4	-	-
88	8.4	8.4	8.4	4.9	4.9	-	80	11.0	11.0	11.0	6.4	6.4	-
96	8.0	8.4	8.2	4.9	4.9	-	88	10.6	11.0	11.0	6.4	6.4	-
104	6.8	7.6	7.8	4.9	4.9	5.1	96	9.1	10.1	10.6	6.4	6.4	6.4
112	5.4	6.3	7.2	4.8	4.9	5.1	104	8.1	8.4	9.2	6.4	6.4	6.4
120	4.2	5.0	5.7	3.7	4.8	4.9	112	6.6	7.2	7.4	5.5	6.4	6.2
128	3.3	4.0	4.6	2.8	4.3	4.5	120	5.4	6.1	6.4	5.0	5.9	6.0
136	2.4	3.0	3.5	1.9	3.3	4.2	128	4.2	4.8	5.4	4.1	4.8	5.7
144	1.6	2.2	2.7	-	2.5	3.8	136	3.3	3.9	4.2	3.3	4.2	5.0
152	-	-	-	-	-	3.0	144	2.5	2.9	3.3	2.5	3.6	4.0
160	-	-	-	-	-	2.2	152	-	2.1	2.3	-	2.8	3.4
							160	-	-	-	-	2.0	2.6

 109.6 ft													
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
20	29.1	-	-	-	-	-	10	29.1	-	-	21.1	-	-
24	28.7	-	-	14.7	-	-	12	29.1	-	-	20.9	-	-
28	28.2	-	-	14.6	-	-	14	29.1	-	-	20.8	-	-
32	27.7	-	-	14.4	-	-	16	29.1	29.1	-	20.6	-	-
36	27.1	24.4	-	14.2	-	-	18	29.1	29.1	-	20.3	-	-
40	26.6	23.2	19.1	14.1	-	-	20	29.1	28.9	-	20.0	-	-
48	25.4	21.1	18.0	13.8	-	-	24	29.1	26.6	-	19.2	-	-
56	23.9	19.5	16.8	13.4	12.1	-	28	29.1	24.5	20.1	18.5	-	-
64	21.7	18.1	16.0	13.1	11.6	-	32	28.9	22.8	19.2	17.6	-	-
72	18.6	16.8	15.2	12.8	11.0	8.6	36	26.9	21.5	18.4	16.7	13.5	-
80	15.9	15.5	14.5	12.3	10.3	8.3	40	24.6	20.3	17.8	15.7	12.7	-
88	13.3	13.8	13.7	11.6	9.7	8.1	48	21.1	18.3	16.9	13.8	11.6	-
96	11.2	11.9	12.3	10.8	9.2	7.9	56	18.5	17.1	-	12.2	10.4	9.2
104	9.8	9.9	10.4	9.8	8.9	7.7	64	-	-	-	11.0	9.6	8.7
112	8.5	8.8	-	8.5	8.3	7.7	72	-	-	-	9.9	9.1	8.2
120	7.8	7.8	-	7.2	7.8	7.4	80	-	-	-	9.2	8.6	-
128	7.2	4.5	-	6.4	6.9	7.2	88	-	-	-	8.6	-	-
136	4.1	-	-	5.7	5.9	6.3							
144	-	-	-	4.9	5.3	2.9							
152	-	-	-	4.6	3.2	-							
160	-	-	-	2.3	-	-							




 39.4 ft													
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
10	29.1	-	-	21.1	-	-	10	29.1	-	-	21.1	-	-
12	29.1	-	-	20.9	-	-	12	29.1	-	-	20.9	-	-
14	29.1	-	-	20.8	-	-	14	29.1	-	-	20.8	-	-
16	29.1	29.1	-	20.6	-	-	16	29.1	29.1	-	20.6	-	-
18	29.1	29.1	-	20.3	-	-	18	29.1	29.1	-	20.3	-	-
20	29.1	28.9	-	20.0	-	-	20	29.1	28.9	-	20.0	-	-
24	29.1	26.6	-	19.2	-	-	24	29.1	26.6	-	19.2	-	-
28	29.1	24.5	20.1	18.5	-	-	28	29.1	24.5	20.1	18.5	-	-
32	28.9	22.8	19.2	17.6	-	-	32	28.9	22.8	19.2	17.6	-	-
36	26.9	21.5	18.4	16.7	13.5	-	36	26.9	21.5	18.4	16.7	13.5	-
40	24.6	20.3	17.8	15.7	12.7	-	40	24.6	20.3	17.8	15.7	12.7	-
48	21.1	18.3	16.9	13.8	11.6	-	48	21.1	18.3	16.9	13.8	11.6	-
56	18.5	17.1	-	12.2	10.4	9.2	56	18.5	17.1	-	12.2	10.4	9.2
64	-	-	-	11.0	9.6	8.7	64	-	-	-	11.0	9.6	8.7
72	-	-	-	9.9	9.1	8.2	72	-	-	-	9.9	9.1	8.2
80	-	-	-	9.2	8.6	-	80	-	-	-	9.2	8.6	-
88	-	-	-	8.6	-	-	88	-	-	-	8.6	-	-




 *191.9 ft




Operation




HAV

(HA60)

9,500 lbs		26.6 ft x 23.6 ft		360°			ASME B30.5		
 194.9 ft									
  <u>32.8 ft</u> <u>62.3 ft</u>									
0° 20° 40° 0° 20° 40°*									
ft 1,000 lbs									
48	8.4	-	-	-	-	-	-	-	-
56	8.4	-	-	4.9	-	-	-	-	-
64	6.7	8.2	-	4.9	-	-	-	-	-
72	4.5	6.2	-	3.6	-	-	-	-	-
80	2.7	4.2	5.7	-	4.6	-	-	-	-
88	-	2.6	3.9	-	3.2	-	-	-	-
96	-	-	2.4	-	-	-	-	-	-
104	-	-	-	-	-	-	2.8	-	-

 179.1 ft									
  <u>32.8 ft</u> <u>62.3 ft</u>									
0° 20° 40° 0° 20° 40°									
ft 1,000 lbs									
40	11.0	-	-	-	-	-	-	-	-
48	11.0	-	-	6.4	-	-	-	-	-
56	10.4	-	-	6.4	-	-	-	-	-
64	8.5	9.9	-	6.4	-	-	-	-	-
72	6.0	7.8	9.1	5.3	-	-	-	-	-
80	4.2	5.7	6.9	3.5	5.8	-	-	-	-
88	2.7	4.0	5.0	2.2	4.5	-	-	-	-
96	-	2.6	3.5	-	3.1	5.0	-	-	-
104	-	-	2.3	-	1.9	3.7	-	-	-
112	-	-	-	-	-	2.4	-	-	-

 109.6 ft									
  <u>32.8 ft</u> <u>62.3 ft</u>									
0° 20° 40° 0° 20° 40°									
ft 1,000 lbs									
20	29.1	-	-	-	-	-	-	-	-
24	28.7	-	-	14.7	-	-	-	-	-
28	28.2	-	-	14.6	-	-	-	-	-
32	27.7	-	-	14.4	-	-	-	-	-
36	27.0	24.4	-	14.2	-	-	-	-	-
40	26.2	23.2	19.1	14.1	-	-	-	-	-
48	21.3	20.8	18.0	13.8	-	-	-	-	-
56	17.3	17.8	16.8	13.4	12.1	-	-	-	-
64	14.0	14.6	15.0	12.3	11.6	-	-	-	-
72	11.1	11.9	12.4	10.8	11.0	8.6	-	-	-
80	8.9	9.8	10.3	9.2	9.9	8.3	-	-	-
88	7.2	7.8	8.4	7.5	8.4	8.1	-	-	-
96	5.6	6.2	6.7	5.9	6.9	7.7	-	-	-
104	4.3	5.0	5.2	4.8	5.9	6.4	-	-	-
112	3.3	3.7	-	3.7	4.8	5.5	-	-	-
120	2.5	2.8	-	2.9	3.7	4.4	-	-	-
128	-	2.0	-	2.1	2.8	3.3	-	-	-
136	-	-	-	-	1.9	2.4	-	-	-
144	-	-	-	-	-	1.6	-	-	-

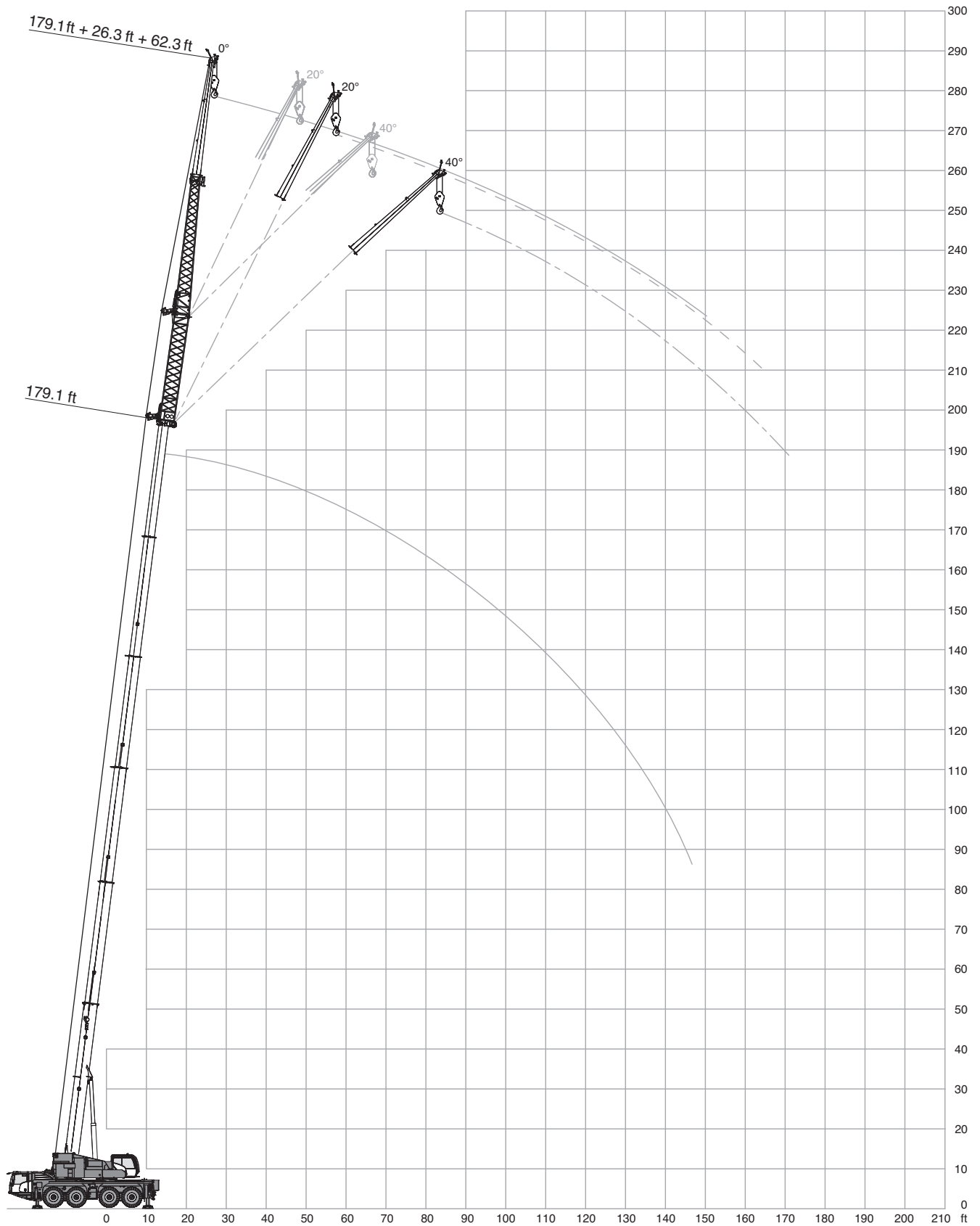
 39.4 ft									
  <u>32.8 ft</u> <u>62.3 ft</u>									
0° 20° 40° 0° 20° 40°									
ft 1,000 lbs									
10	29.1	-	-	21.1	-	-	-	-	-
12	29.1	-	-	20.9	-	-	-	-	-
14	29.1	-	-	20.8	-	-	-	-	-
16	29.1	29.1	-	20.6	-	-	-	-	-
18	29.1	29.1	-	20.3	-	-	-	-	-
20	29.1	28.9	-	20.0	-	-	-	-	-
24	29.1	26.6	-	19.2	-	-	-	-	-
28	29.1	24.5	20.1	18.5	-	-	-	-	-
32	28.9	22.8	19.2	17.6	-	-	-	-	-
36	26.9	21.5	18.4	16.7	13.5	-	-	-	-
40	24.6	20.3	17.8	15.7	12.7	-	-	-	-
48	21.1	18.3	16.9	13.8	11.6	-	-	-	-
56	17.6	16.9	-	12.2	10.4	9.2	-	-	-
64	-	-	-	11.0	9.6	8.7	-	-	-
72	-	-	-	9.9	9.1	8.2	-	-	-
80	-	-	-	9.2	8.6	-	-	-	-
88	-	-	-	8.5	-	-	-	-	-

 *191.9 ft

Operation

HAV-VA



(HA60)





Operation

HAV-VA

(HA60)

54,000 lbs		26.3 ft x 23.6 ft					360°		ASME B30.5					
 194.9 ft							 179.1 ft							
		26.3 ft							26.3 ft					
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°	
		62.3 ft							62.3 ft					
		0°	20°	40°*	0°	0°			0°	20°	40°	0°	0°	
ft		1,000 lbs												
56	4.6	-	-	-	-	-			48	6.6	-	-	-	-
64	4.6	-	-	-	-	-			56	6.6	-	-	-	-
72	4.6	4.6	-	-	-	-			64	6.6	-	-	-	-
80	4.6	4.6	5.1	-	-	-			72	6.6	6.6	-	-	-
88	4.6	4.6	5.1	-	-	-			80	6.6	6.6	6.6	6.6	-
96	4.6	4.6	5.1	-	-	-			88	6.5	6.6	6.6	6.6	-
104	4.6	4.6	5.1	-	-	-			96	6.4	6.5	6.6	6.5	6.5
112	4.6	4.6	5.0	-	-	-			104	6.4	6.4	6.6	6.4	6.0
120	4.4	4.6	4.6	-	-	-			112	6.1	6.2	6.4	6.2	5.7
128	3.5	4.2	4.2	-	-	-			120	5.3	6.0	6.3	6.1	5.7
136	2.6	3.5	3.8	-	-	-			128	4.2	5.1	5.7	5.6	5.4
144	1.8	2.5	3.3	-	-	-			136	3.8	4.0	4.7	4.7	5.1
152	-	-	2.5	-	-	-			144	2.9	3.3	3.6	3.6	4.2
									152	2.1	2.8	3.0	2.5	3.2
									160	-	-	2.2	-	2.4

 109.6 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		62.3 ft				
		0°	20°	40°	0°	0°
ft		1,000 lbs				
24	18.4	-	-	-	-	-
28	18.1	-	-	-	-	-
32	17.7	-	-	-	-	-
36	17.4	-	-	-	-	-
40	17.2	16.9	-	-	-	-
48	16.5	16.0	14.5	13.9	-	-
56	15.9	15.0	13.5	13.1	-	-
64	15.2	13.9	12.6	12.1	-	-
72	14.1	12.6	11.7	11.3	9.5	-
80	13.0	11.7	10.9	10.5	9.0	-
88	11.8	10.8	10.2	9.7	8.5	-
96	10.8	9.9	9.6	9.2	8.1	-
104	10.0	9.3	9.1	8.7	7.7	-
112	9.0	8.8	8.6	8.1	7.5	-
120	7.7	8.1	7.9	7.7	7.2	-
128	6.8	7.2	7.2	7.1	6.9	-
136	5.8	6.0	2.3	6.2	6.5	-
144	4.7	4.9	-	5.1	-	-
152	4.3	-	-	-	-	-


 39.4 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		62.3 ft				
		0°	20°	40°	0°	0°
ft		1,000 lbs				
10	29.1	-	-	-	-	-
12	29.1	-	-	-	-	-
14	29.1	-	-	-	-	-
16	29.1	-	-	-	-	-
18	28.9	-	-	-	-	-
20	28.4	-	-	-	-	-
24	25.6	21.9	-	-	-	-
28	23.2	20.0	-	-	-	-
32	20.9	18.4	16.8	16.3	-	-
36	19.2	17.1	15.7	15.2	-	-
40	17.6	15.9	14.6	14.2	-	-
48	15.2	13.9	13.1	12.7	11.0	-
56	13.4	12.4	11.9	11.4	10.0	-
64	11.8	11.2	10.8	10.4	9.4	-
72	10.6	10.2	10.2	9.5	8.8	-
80	9.5	9.4	-	9.0	-	-


 *191.9 ft


Operation


HAV-VA

(HA60)

42,500 lbs		26.3 ft x 23.6 ft		360°		ASME B30.5	
 194.9 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°*	0°	0°	
ft	1,000 lbs						
56	4.6	-	-	-	-	-	
64	4.6	-	-	-	-	-	
72	4.6	4.6	-	-	-	-	
80	4.6	4.6	5.1	-	-	-	
88	4.6	4.6	5.1	-	-	-	
96	4.6	4.6	5.1	-	-	-	
104	4.6	4.6	5.1	-	-	-	
112	3.7	4.6	5.0	-	-	-	
120	2.6	3.5	4.4	-	-	-	
128	-	2.5	3.4	-	-	-	
136	-	-	2.4	-	-	-	

 179.1 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
48	6.6	-	-	-	-	-	
56	6.6	-	-	-	-	-	
64	6.6	-	-	-	-	-	
72	6.6	6.6	-	-	-	-	
80	6.6	6.6	6.6	6.6	-	-	
88	6.5	6.6	6.6	6.6	6.6	-	
96	6.4	6.5	6.6	6.5	6.5	-	
104	5.6	6.4	6.6	6.4	6.0	-	
112	5.0	5.4	6.3	6.1	5.7	-	
120	3.9	4.4	5.0	4.8	5.7	-	
128	2.9	3.6	4.1	3.7	5.0	-	
136	1.9	2.7	3.3	2.7	3.8	-	
144	-	1.8	2.5	1.8	2.7	-	

 109.6 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
24	18.4	-	-	-	-	-	
28	18.1	-	-	-	-	-	
32	17.7	-	-	-	-	-	
36	17.4	-	-	-	-	-	
40	17.2	16.9	-	-	-	-	
48	16.5	16.0	14.5	13.9	-	-	
56	15.9	15.0	13.5	13.1	-	-	
64	15.2	13.9	12.6	12.1	-	-	
72	14.1	12.6	11.7	11.3	9.5	-	
80	13.0	11.7	10.9	10.5	9.0	-	
88	11.6	10.8	10.2	9.7	8.5	-	
96	10.5	9.9	9.6	9.2	8.1	-	
104	9.0	9.1	9.1	8.7	7.7	-	
112	7.4	8.1	8.3	7.9	7.5	-	
120	6.2	6.7	7.0	7.0	7.1	-	
128	5.5	5.5	5.6	5.7	6.3	-	
136	4.7	5.0	2.3	5.0	5.0	-	
144	4.2	4.2	-	4.2	-	-	
152	3.7	-	-	-	-	-	



 39.4 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
10	29.1	-	-	-	-	-	
12	29.1	-	-	-	-	-	
14	29.1	-	-	-	-	-	
16	29.1	-	-	-	-	-	
18	28.9	-	-	-	-	-	
20	28.4	-	-	-	-	-	
24	25.6	21.9	-	-	-	-	
28	23.2	20.0	-	-	-	-	
32	20.9	18.4	16.8	16.3	-	-	
36	19.2	17.1	15.7	15.2	-	-	
40	17.6	15.9	14.6	14.2	-	-	
48	15.2	13.9	13.1	12.7	11.0	-	
56	13.4	12.4	11.9	11.4	10.0	-	
64	11.8	11.2	10.8	10.4	9.4	-	
72	10.6	10.2	10.2	9.5	8.8	-	
80	9.5	9.4	-	9.0	-	-	


 *191.9 ft


Operation

HAV-VA

(HA60)

9,500 lbs		26.6 ft x 23.6 ft					360°		ASME B30.5		
 194.9 ft							 179.1 ft				
		26.3 ft							26.3 ft		
		0° 0° 0° 20° 40°							0° 0° 0° 20° 40°		
		62.3 ft							62.3 ft		
		0° 20° 40°* 0° 0°							0° 20° 40° 0° 0°		
ft	1,000 lbs					ft	1,000 lbs				
56	4.6	-	-	-	-	48	6.6	-	-	-	
64	4.3	-	-	-	-	56	6.6	-	-	-	
72	2.5	4.4	-	-	-	64	6.0	-	-	-	
80	-	-	4.3	-	-	72	4.2	6.0	-	-	
88	-	-	2.5	-	-	80	-	3.9	5.4	4.6	
						88	-	2.4	3.6	3.0	
						96	-	-	2.2	-	3.4
						104	-	-	-	-	1.9

 109.6 ft						
		26.3 ft				
		0° 0° 0° 20° 40°				
		62.3 ft				
		0° 20° 40°* 0° 0°				
ft	1,000 lbs					
24	18.4	-	-	-	-	
28	18.1	-	-	-	-	
32	17.7	-	-	-	-	
36	17.4	-	-	-	-	
40	17.2	16.9	-	-	-	
48	16.4	16.0	14.5	13.9	-	
56	14.6	14.8	13.5	13.1	-	
64	12.3	13.2	12.6	12.1	-	
72	9.9	11.1	11.5	11.0	9.5	
80	8.3	8.7	9.8	9.6	9.0	
88	6.5	7.3	7.5	7.5	8.1	
96	4.9	5.8	6.4	6.1	6.9	
104	3.7	4.4	4.8	4.8	5.5	
112	2.6	3.2	3.7	3.5	4.3	
120	-	2.2	2.6	2.5	3.1	
128	-	-	-	-	2.1	



 39.4 ft						
		26.3 ft				
		0° 0° 0° 20° 40°				
		62.3 ft				
		0° 20° 40° 0° 0°				
ft	1,000 lbs					
10	29.1	-	-	-	-	
12	29.1	-	-	-	-	
14	29.1	-	-	-	-	
16	29.1	-	-	-	-	
18	28.9	-	-	-	-	
20	28.4	-	-	-	-	
24	25.6	21.9	-	-	-	
28	23.2	20.0	-	-	-	
32	20.9	18.4	16.8	16.3	-	
36	19.2	17.1	15.7	15.2	-	
40	17.6	15.9	14.6	14.2	-	
48	15.2	13.9	13.1	12.7	11.0	
56	13.4	12.4	11.9	11.4	10.0	
64	11.8	11.2	10.8	10.4	9.4	
72	10.6	10.2	10.2	9.5	8.8	
80	9.4	9.3	-	9.0	-	


 *191.9 ft

Operation

HAV-VA

(HA60)

54,000 lbs		26.3 ft x 23.6 ft					360°		ASME B30.5					
 179.1 ft							 109.6 ft							
		26.3 ft							26.3 ft					
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°	
		32.8 ft							32.8 ft					
		0°	20°	40°*	0°*	0°**			0°	20°	40°	0°	0°	
ft	1,000 lbs													
56	3.5	-	-	-	-	-			32	10.1	-	-	-	-
64	3.5	-	-	-	-	-			36	10.0	-	-	-	-
72	3.5	-	-	-	-	-			40	9.9	-	-	-	-
80	3.5	3.5	-	-	-	-			48	9.6	-	-	-	-
88	3.5	3.5	-	5.0	-	-			56	9.4	-	-	-	-
96	3.5	3.5	-	4.9	-	-			64	9.1	8.9	-	-	-
104	3.3	3.5	5.1	4.9	-	-			72	8.8	8.4	-	7.5	-
112	3.3	3.3	4.9	4.6	4.6	-			80	8.6	7.9	7.0	7.2	-
120	3.3	3.3	4.9	4.6	4.4	-			88	8.3	7.4	6.7	6.7	5.4
128	3.3	3.3	4.9	4.6	4.3	-			96	7.9	7.0	6.5	6.3	5.2
136	2.8	3.3	4.9	4.5	4.2	-			104	7.3	6.6	6.2	6.0	4.9
144	2.0	3.1	4.6	4.0	4.2	-			112	6.8	6.2	5.7	5.7	4.8
152	-	2.5	3.6	3.2	3.9	-			120	6.3	5.8	5.4	5.2	4.6
160	-	-	2.7	2.2	3.3	-			128	5.9	5.4	5.2	5.0	4.4
									136	5.4	5.1	4.9	4.7	4.2
									144	4.9	4.9	4.6	4.4	4.2
									152	4.3	4.5	4.5	4.2	4.2
									160	3.5	4.0	4.2	4.1	4.0
									168	2.8	3.3	-	3.6	-
									176	2.5	2.5	-	2.8	-


 39.4 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		32.8 ft				
		0°	20°	40°	0°	0°
ft	1,000 lbs					
14	17.2	-	-	-	-	-
16	17.2	-	-	-	-	-
18	17.1	-	-	-	-	-
20	16.9	-	-	-	-	-
24	16.3	-	-	-	-	-
28	15.5	-	-	-	-	-
32	14.7	-	-	-	-	-
36	13.9	-	-	-	-	-
40	13.1	11.8	-	-	-	-
48	11.6	10.5	-	9.6	-	-
56	10.2	9.2	8.7	8.6	-	-
64	9.0	8.3	7.9	7.7	-	-
72	8.0	7.5	7.1	7.1	-	-
80	7.2	6.7	6.5	6.3	5.6	-
88	6.6	6.2	6.0	5.8	5.2	-
96	5.9	5.7	5.6	5.2	4.8	-
104	5.4	5.3	-	4.9	4.6	-
112	4.8	-	-	-	-	-


 *165.4 ft ** 151.6 ft


Operation

HAV-VA

(HA60)

42,500 lbs		26.6 ft x 23.6 ft		360°		ASME B30.5	
 179.1 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		32.8 ft					
		0°	20°	40°*	0°*	0°**	
ft	1,000 lbs						
56	3.5	-	-	-	-	-	-
64	3.5	-	-	-	-	-	-
72	3.5	-	-	-	-	-	-
80	3.5	3.5	-	-	-	-	-
88	3.5	3.5	-	5.0	-	-	-
96	3.5	3.5	-	4.9	-	-	-
104	3.3	3.5	5.1	4.9	-	-	-
112	3.3	3.3	4.9	4.6	4.6	-	-
120	2.8	3.3	4.9	4.6	4.4	-	-
128	-	3.2	4.7	4.2	4.3	-	-
136	-	2.4	4.0	3.1	4.2	-	-
144	-	1.6	2.9	2.2	4.0	-	-
152	-	-	-	-	2.9	-	-

 39.4 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		32.8 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
14	17.2	-	-	-	-	-	-
16	17.2	-	-	-	-	-	-
18	17.1	-	-	-	-	-	-
20	16.9	-	-	-	-	-	-
24	16.3	-	-	-	-	-	-
28	15.5	-	-	-	-	-	-
32	14.7	-	-	-	-	-	-
36	13.9	-	-	-	-	-	-
40	13.1	11.8	-	-	-	-	-
48	11.6	10.5	-	9.6	-	-	-
56	10.2	9.2	8.7	8.6	-	-	-
64	9.0	8.3	7.9	7.7	-	-	-
72	8.0	7.5	7.1	7.1	-	-	-
80	7.2	6.7	6.5	6.3	5.6	-	-
88	6.6	6.2	6.0	5.8	5.2	-	-
96	5.9	5.7	5.6	5.2	4.8	-	-
104	5.4	5.3	-	4.9	4.6	-	-
112	4.8	-	-	-	-	-	-



 109.6 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		32.8 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
32	10.1	-	-	-	-	-	-
36	10.0	-	-	-	-	-	-
40	9.9	-	-	-	-	-	-
48	9.6	-	-	-	-	-	-
56	9.4	-	-	-	-	-	-
64	9.1	8.9	-	-	-	-	-
72	8.8	8.4	-	7.5	-	-	-
80	8.6	7.9	7.0	7.2	-	-	-
88	8.3	7.4	6.7	6.7	5.4	-	-
96	7.9	7.0	6.5	6.3	5.2	-	-
104	7.3	6.6	6.2	6.0	4.9	-	-
112	6.8	6.2	5.7	5.7	4.8	-	-
120	6.2	5.8	5.4	5.2	4.6	-	-
128	5.3	5.4	5.2	5.0	4.4	-	-
136	4.4	5.1	4.9	4.7	4.2	-	-
144	3.8	4.4	4.6	4.4	4.2	-	-
152	3.4	3.7	3.9	3.6	3.9	-	-
160	2.7	3.1	3.2	3.1	3.4	-	-
168	-	2.5	-	2.6	-	-	-
176	-	1.9	-	2.1	-	-	-


 *165.4 ft **151.6 ft


Operation

HAV-VA

(HA60)

9,500 lbs		26.6 ft x 23.6 ft					360°		ASME B30.5					
 179.1 ft							 109.6 ft							
		26.3 ft							26.3 ft					
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°	
		32.8 ft							32.8 ft					
		0°	20°	40°*	0°*	0°**			0°	20°	40°	0°	0°	
ft	1,000 lbs													
56	3.5	-	-	-	-	-			32	10.1	-	-	-	-
64	3.5	-	-	-	-	-			36	10.0	-	-	-	-
72	2.7	-	-	-	-	-			40	9.9	-	-	-	-
80	-	3.4	-	-	-	-			48	9.6	-	-	-	-
88	-	2.4	-	3.9	-	-			56	9.4	-	-	-	-
96	-	-	-	2.4	-	-			64	9.1	8.9	-	-	-
104	-	-	2.2	-	-	-			72	8.4	8.4	-	7.5	-
112	-	-	-	-	2.8	-			80	7.2	7.8	7.0	7.2	-
									88	6.0	7.1	6.7	6.7	5.4
									96	4.8	6.0	6.5	6.0	5.2
									104	3.7	4.7	6.0	5.2	4.9
									112	2.8	4.1	4.8	3.9	4.8
									120	-	3.1	3.5	2.9	3.9
									128	-	2.1	2.5	2.1	2.6

 39.4 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		32.8 ft				
		0°	20°	40°	0°	0°
ft	1,000 lbs					
14	17.2	-	-	-	-	-
16	17.2	-	-	-	-	-
18	17.1	-	-	-	-	-
20	16.9	-	-	-	-	-
24	16.3	-	-	-	-	-
28	15.5	-	-	-	-	-
32	14.7	-	-	-	-	-
36	13.9	-	-	-	-	-
40	13.1	11.8	-	-	-	-
48	11.6	10.5	-	9.6	-	-
56	10.2	9.2	8.7	8.6	-	-
64	9.0	8.3	7.9	7.7	-	-
72	8.0	7.5	7.1	7.1	-	-
80	7.2	6.7	6.5	6.3	5.6	-
88	6.6	6.2	6.0	5.8	5.2	-
96	5.9	5.7	5.6	5.2	4.8	-
104	5.4	5.3	-	4.9	4.6	-
112	4.8	-	-	-	-	-

 *165.4 ft **151.6 ft

Operation

MS

(HA60)

54,000 lbs		26.6 ft x 23.6 ft												360°		ASME B30.5	
		(ft)															
		39.4	53.5	67.3	81.4	95.5	109.6	123.4	132.5	146.7	163.7	165.4	167.0	179.1	194.9		
ft	1,000 lbs														ft		
10	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	-	10	
12	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	-	12	
14	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	14	
16	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	16	
18	58.0	58.0	58.0	58.0	58.0	56.4	-	-	-	-	-	-	-	-	-	18	
20	58.0	58.0	58.0	58.0	58.0	56.0	-	-	-	-	-	-	-	-	-	20	
24	58.0	58.0	58.0	58.0	58.0	53.5	48.7	-	-	-	-	-	-	-	-	24	
28	58.0	58.0	58.0	58.0	58.0	51.4	46.7	-	-	-	-	-	-	-	-	28	
32	58.0	58.0	58.0	58.0	58.0	49.7	44.8	37.4	-	-	-	-	-	-	-	32	
36	-	55.4	55.6	55.3	54.8	48.1	43.0	36.5	30.7	21.5	24.3	22.7	-	-	-	36	
40	-	51.8	52.2	51.5	50.4	46.3	41.1	35.6	29.7	21.3	24.2	22.7	19.4	14.8	-	40	
48	-	-	40.6	40.0	41.3	39.9	36.2	31.9	28.3	19.8	23.9	22.4	19.4	14.8	-	48	
56	-	-	32.6	33.2	32.4	31.0	30.1	28.1	25.5	17.9	22.9	21.6	19.4	14.8	-	56	
64	-	-	-	26.9	26.2	24.9	24.9	23.7	22.8	16.2	21.1	19.8	18.7	14.8	-	64	
72	-	-	-	22.1	21.5	21.6	21.0	19.9	19.3	14.6	19.0	17.9	17.7	14.8	-	72	
80	-	-	-	-	18.3	18.9	17.6	18.1	16.7	13.3	16.2	16.3	16.2	14.2	-	80	
88	-	-	-	-	12.6	16.1	15.6	15.2	14.8	12.2	13.2	14.5	13.9	13.3	-	88	
96	-	-	-	-	-	13.7	14.0	12.9	12.6	11.1	10.8	12.2	11.9	11.5	-	96	
104	-	-	-	-	-	9.5	12.1	11.8	11.2	10.2	8.8	10.2	10.4	9.5	-	104	
112	-	-	-	-	-	-	9.9	10.1	9.6	9.2	7.2	8.5	8.5	7.8	-	112	
120	-	-	-	-	-	-	-	8.7	8.1	8.1	5.9	7.2	7.2	6.3	-	120	
128	-	-	-	-	-	-	-	7.5	7.1	6.9	4.6	5.9	5.9	5.1	-	128	
136	-	-	-	-	-	-	-	-	6.5	5.9	3.5	4.9	4.9	4.0	-	136	
144	-	-	-	-	-	-	-	-	4.9	4.9	2.7	4.0	4.0	3.1	-	144	
152	-	-	-	-	-	-	-	-	-	4.1	-	3.2	3.2	2.3	-	152	
160	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	-	160	

Operation

MS

(HA60)

42,500 lbs		26.6 ft x 23.6 ft										360°			ASME B30.5		
		(ft)															
		39.4	53.5	67.3	81.4	95.5	109.6	123.4	132.5	146.7	163.7	165.4	167.0	179.1	194.9		
ft	1,000 lbs														ft		
10	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	-	10	
12	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	-	12	
14	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	14	
16	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	16	
18	58.0	58.0	58.0	58.0	58.0	56.4	-	-	-	-	-	-	-	-	-	18	
20	58.0	58.0	58.0	58.0	58.0	56.0	-	-	-	-	-	-	-	-	-	20	
24	58.0	58.0	58.0	58.0	58.0	53.5	48.7	-	-	-	-	-	-	-	-	24	
28	58.0	58.0	58.0	58.0	58.0	51.4	46.7	-	-	-	-	-	-	-	-	28	
32	58.0	58.0	58.0	58.0	58.0	49.7	44.8	37.4	-	-	-	-	-	-	-	32	
36	-	53.2	53.3	52.9	52.2	48.1	43.0	36.5	30.7	21.5	24.3	22.7	-	-	-	36	
40	-	47.0	47.3	46.6	47.1	45.8	40.9	35.6	29.7	21.3	24.2	22.7	19.4	14.8	-	40	
48	-	-	35.9	36.9	36.1	34.5	33.8	31.5	28.3	19.8	23.9	22.4	19.4	14.8	-	48	
56	-	-	29.0	28.8	28.1	27.1	26.6	25.9	24.9	17.9	22.9	21.6	19.4	14.8	-	56	
64	-	-	-	23.2	22.4	22.9	22.0	21.8	20.8	16.2	20.3	19.8	18.7	14.8	-	64	
72	-	-	-	19.0	19.7	19.0	18.6	18.2	18.1	14.6	16.4	17.7	17.0	14.8	-	72	
80	-	-	-	-	16.8	15.9	16.3	15.4	15.1	13.3	13.2	14.6	14.0	13.3	-	80	
88	-	-	-	-	9.9	14.1	13.7	13.5	13.1	12.2	10.5	12.0	12.0	10.9	-	88	
96	-	-	-	-	-	12.3	11.7	11.4	10.8	10.7	8.4	9.8	9.8	8.9	-	96	
104	-	-	-	-	-	8.0	10.3	9.7	9.1	9.0	6.6	7.9	7.9	7.3	-	104	
112	-	-	-	-	-	-	8.8	8.1	8.1	7.4	5.0	6.5	6.5	5.7	-	112	
120	-	-	-	-	-	-	-	6.8	7.0	6.1	3.9	5.3	5.3	4.4	-	120	
128	-	-	-	-	-	-	-	5.7	5.8	5.1	2.8	4.2	4.2	3.3	-	128	
136	-	-	-	-	-	-	-	-	4.9	4.1	1.8	3.1	3.3	2.4	-	136	
144	-	-	-	-	-	-	-	-	3.3	3.3	-	2.2	2.5	-	-	144	
152	-	-	-	-	-	-	-	-	-	2.6	-	-	-	-	-	152	

Operation

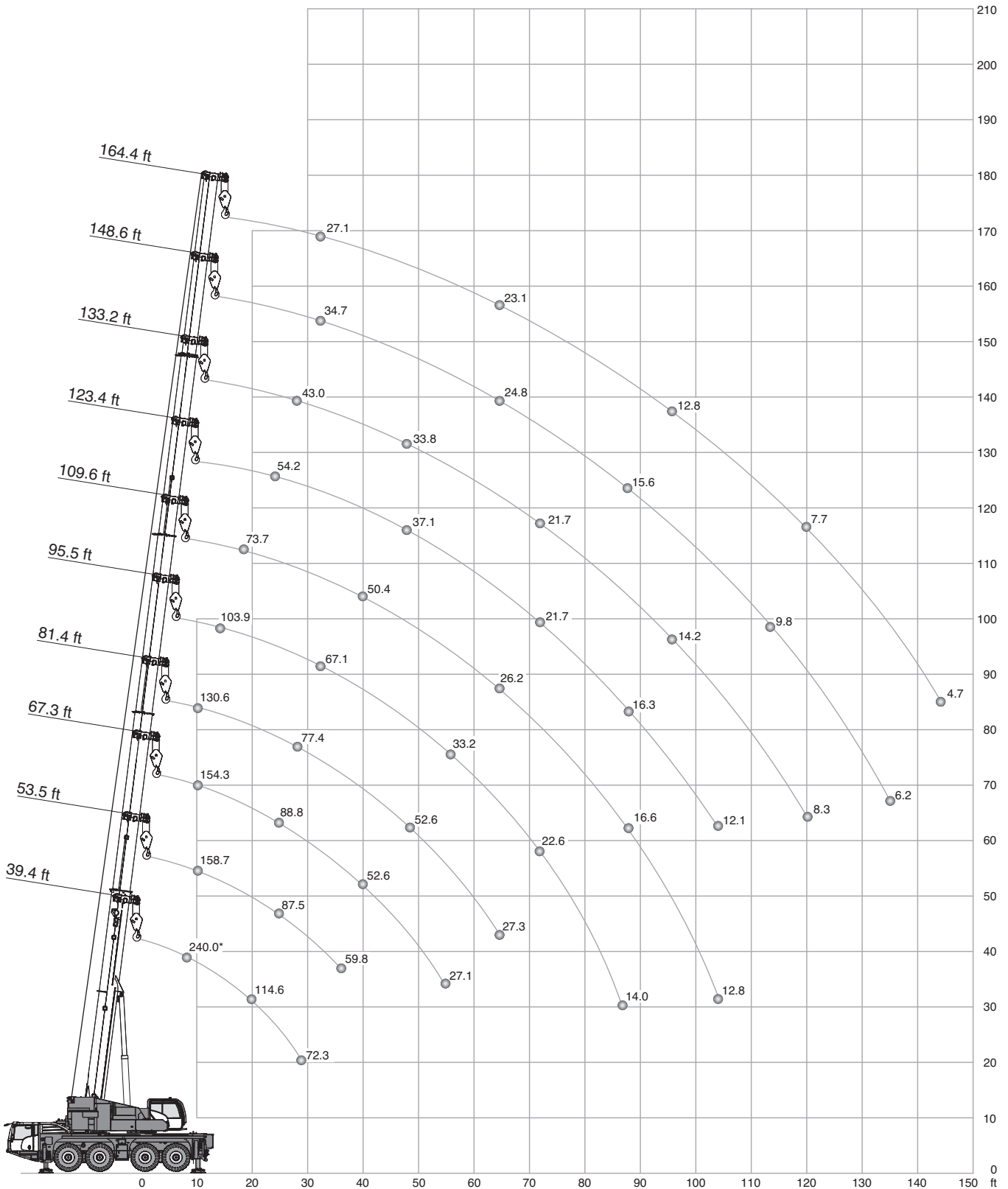
MS

(HA60)

☰ 9,500 lbs		📏 26.6 ft x 23.6 ft														360°		ASME B30.5	
📐		(ft)														📐			
		39.4	53.5	67.3	81.4	95.5	109.6	123.4	132.5	146.7	163.7	165.4	167.0	179.1	194.9				
ft		1,000 lbs														ft			
10	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	-	10		
12	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	-	12		
14	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	14		
16	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	-	-	-	-	16		
18	58.0	58.0	58.0	58.0	58.0	58.0	56.4	-	-	-	-	-	-	-	-	-	18		
20	58.0	58.0	58.0	58.0	58.0	56.0	-	-	-	-	-	-	-	-	-	-	20		
24	57.9	58.0	58.0	57.2	56.9	52.6	48.1	-	-	-	-	-	-	-	-	-	24		
28	51.5	52.9	53.0	52.4	50.2	46.9	42.8	36.0	-	-	-	-	-	-	-	-	28		
32	39.8	42.2	43.7	44.0	41.7	39.8	37.3	34.1	27.8	-	-	-	-	-	-	-	32		
36	-	35.2	36.8	36.5	35.3	34.1	32.4	30.5	26.6	21.5	23.4	22.7	-	-	-	-	36		
40	-	29.1	30.2	29.9	30.6	30.2	28.8	27.5	24.9	21.3	22.0	22.3	19.2	14.8	-	-	40		
48	-	-	22.0	23.1	22.9	22.9	22.9	21.3	19.8	19.1	15.9	17.7	17.1	14.1	-	-	48		
56	-	-	17.2	17.6	17.9	17.6	17.4	16.5	16.3	14.8	11.6	13.3	12.8	11.0	-	-	56		
64	-	-	-	13.8	13.9	13.7	13.3	13.4	12.6	11.2	8.3	9.9	9.4	7.7	-	-	64		
72	-	-	-	10.9	10.9	10.9	10.2	10.4	9.8	8.4	5.6	7.1	6.7	5.1	-	-	72		
80	-	-	-	-	8.7	8.5	8.1	8.1	7.4	6.4	3.7	5.0	4.8	3.3	-	-	80		
88	-	-	-	-	7.0	6.7	6.3	6.3	5.6	4.7	-	3.5	3.3	-	-	-	88		
96	-	-	-	-	-	5.3	4.8	4.8	4.2	3.4	-	2.2	2.0	-	-	-	96		
104	-	-	-	-	-	3.9	3.5	3.7	3.0	2.3	-	-	-	-	-	-	104		
112	-	-	-	-	-	-	2.6	2.6	-	-	-	-	-	-	-	-	112		

Operation



HA
(HA50)



* Max. crane capacity – with additional special equipment

Operation

HA
(HA50)

54,000 lbs		26.6 ft x 23.6 ft					360°					ASME B30.5		
		(0°)												
39.4		39.4	53.5	67.3	81.4	95.5	109.6	123.4	133.2	148.6	164.4			
ft		1,000 lbs											ft	
8	240.0*	-	-	-	-	-	-	-	-	-	-	-	8	
10	175.2	162.1	158.7	154.3	130.6	-	-	-	-	-	-	-	10	
12	160.3	145.9	145.0	140.9	127.1	-	-	-	-	-	-	-	12	
14	147.4	131.7	132.6	129.7	118.3	103.9	-	-	-	-	-	-	14	
16	136.2	119.4	120.5	119.8	113.8	99.1	-	-	-	-	-	-	16	
18	125.5	109.6	110.7	110.4	108.4	93.8	73.7	-	-	-	-	-	18	
20	114.6	100.4	101.6	102.9	102.5	88.7	70.3	-	-	-	-	-	20	
24	93.0	86.2	87.5	88.8	88.4	82.0	66.6	54.2	-	-	-	-	24	
28	72.3	68.2	77.3	77.8	77.4	76.1	62.1	51.8	43.0	-	-	-	28	
32	-	-	68.1	68.6	68.0	67.1	57.6	49.4	41.2	34.7	27.1	-	32	
36	-	-	59.8	60.4	59.8	58.8	54.2	46.3	39.7	33.9	27.1	-	36	
40	-	-	-	52.6	52.2	51.1	50.4	43.2	38.0	33.1	27.1	-	40	
48	-	-	-	41.2	40.5	40.0	40.5	37.1	33.8	30.8	26.8	-	48	
56	-	-	-	27.1	32.0	33.2	31.9	31.8	29.6	27.8	25.2	-	56	
64	-	-	-	-	27.3	27.1	26.2	26.3	25.7	24.8	23.1	-	64	
72	-	-	-	-	19.4	22.6	22.8	21.7	21.7	21.4	20.8	-	72	
80	-	-	-	-	-	19.5	19.4	18.9	18.3	18.3	17.8	-	80	
88	-	-	-	-	-	14.0	16.6	16.3	16.0	15.6	15.1	-	88	
96	-	-	-	-	-	-	14.5	14.1	14.2	13.4	12.8	-	96	
104	-	-	-	-	-	-	12.8	12.1	12.4	11.5	10.8	-	104	
112	-	-	-	-	-	-	-	-	10.7	9.8	9.2	-	112	
120	-	-	-	-	-	-	-	-	8.3	8.3	7.7	-	120	
128	-	-	-	-	-	-	-	-	-	7.3	6.6	-	128	
136	-	-	-	-	-	-	-	-	-	6.2	5.5	-	136	
144	-	-	-	-	-	-	-	-	-	-	4.7	-	144	

* Max. crane capacity – with additional special equipment

Operation

HA
(HA50)

42,500 lbs		26.6 ft x 23.6 ft				360° / Max.*				ASME B30.5	
ft	360° 39.4 ft	Max. 39.4 ft	360° 53.5 ft	Max. 53.5 ft	360° 67.3 ft	Max. 67.3 ft	360° 81.4 ft	Max. 81.4 ft	360° 95.5 ft	Max. 95.5 ft	ft
1,000 lbs											
10	161.6	162.1	158.7	158.7	154.3	154.3	130.6	130.6	-	-	10
12	144.8	145.9	144.7	145.0	140.9	140.9	127.1	127.1	-	-	12
14	130.3	131.7	131.4	132.6	129.7	129.7	118.3	118.3	103.9	103.9	14
16	118.1	119.4	119.2	120.5	119.0	119.8	113.8	113.8	99.1	99.1	16
18	108.2	109.6	109.5	110.7	109.3	110.4	107.8	108.4	93.8	93.8	18
20	99.2	100.4	100.5	101.6	101.8	102.9	101.4	102.5	88.7	88.7	20
24	85.3	86.1	86.5	87.5	87.8	88.8	87.3	88.4	82.0	82.0	24
28	67.7	68.0	75.4	76.0	76.0	76.5	75.5	76.0	74.6	74.7	28
32	-	-	64.3	64.9	64.9	65.3	64.5	64.8	63.4	64.0	32
36	-	-	55.2	56.5	55.9	56.9	55.3	56.4	54.1	55.4	36
40	-	-	-	-	47.5	49.2	46.8	48.6	46.2	47.5	40
48	-	-	-	-	35.9	37.4	35.8	36.9	36.6	38.1	48
56	-	-	-	-	24.1	25.8	29.4	30.5	28.9	30.2	56
64	-	-	-	-	-	-	23.9	25.1	23.9	24.6	64
72	-	-	-	-	-	-	19.4	19.4	19.9	21.2	72
80	-	-	-	-	-	-	-	-	17.0	18.1	80
88	-	-	-	-	-	-	-	-	14.0	14.0	88

ft	360° 109.6 ft	Max. 109.6 ft	360° 123.4 ft	Max. 123.4 ft	360° 133.2 ft	Max. 133.2 ft	360° 148.6 ft	Max. 148.6 ft	360° 164.4 ft	Max. 164.4 ft	ft
1,000 lbs											
18	73.7	73.7	-	-	-	-	-	-	-	-	18
20	70.3	70.3	-	-	-	-	-	-	-	-	20
24	66.6	66.6	54.2	54.2	-	-	-	-	-	-	24
28	62.1	62.1	51.8	51.8	43.0	43.0	-	-	-	-	28
32	57.6	57.6	49.4	49.4	41.2	41.2	34.7	34.7	27.1	27.1	32
36	52.6	53.5	46.3	46.3	39.7	39.7	33.9	33.9	27.1	27.1	36
40	46.8	48.6	42.9	43.1	38.0	38.0	33.1	33.1	27.1	27.1	40
48	35.3	36.9	35.7	36.3	33.0	33.6	30.8	30.8	26.8	26.8	48
56	28.8	29.5	28.0	29.5	27.7	28.5	26.7	27.6	25.2	25.2	56
64	23.5	24.8	23.1	24.0	22.4	23.7	22.6	23.6	21.8	22.8	64
72	19.5	20.6	19.3	20.4	19.5	19.9	18.6	19.7	17.9	19.3	72
80	16.8	17.7	16.1	17.2	16.3	17.4	15.5	16.6	14.8	16.1	80
88	14.3	15.4	13.6	14.7	13.8	14.9	12.9	14.3	12.4	13.6	88
96	12.3	13.4	11.6	12.7	11.8	12.9	10.9	12.1	10.3	11.6	96
104	10.6	11.7	9.9	11.0	10.1	11.2	9.1	10.3	8.6	9.7	104
112	-	-	-	-	8.7	9.8	7.6	9.0	7.0	8.3	112
120	-	-	-	-	6.4	7.5	6.4	7.7	5.9	7.0	120
128	-	-	-	-	-	-	5.4	6.6	4.7	5.9	128
136	-	-	-	-	-	-	4.6	5.7	3.8	5.0	136
144	-	-	-	-	-	-	-	-	2.9	4.2	144

* Max. values are valid only for specific superstructure positions

Operation

HA
(HA50)

13,400 lbs		26.6 ft x 23.6 ft				360° / Max.*				ASME B30.5	
ft	360° 39.4 ft	Max. 39.4 ft	360° 53.5 ft	Max. 53.5 ft	360° 67.3 ft	Max. 67.3 ft	360° 81.4 ft	Max. 81.4 ft	360° 95.5 ft	Max. 95.5 ft	ft
1,000 lbs											
10	158.0	162.1	158.5	158.7	154.3	154.3	130.6	130.6	-	-	10
12	140.7	145.9	141.8	145.0	140.5	140.9	127.1	127.1	-	-	12
14	126.6	131.7	127.6	132.6	127.5	129.7	118.3	118.3	103.9	103.9	14
16	114.7	119.4	115.9	120.5	115.8	119.8	113.8	113.8	99.1	99.1	16
18	103.4	107.1	105.1	108.4	105.0	108.2	101.6	106.3	89.7	93.8	18
20	92.2	95.0	95.0	96.6	95.8	98.3	88.1	97.9	79.5	88.6	20
24	71.0	76.8	74.8	79.4	73.9	79.8	68.9	79.4	65.1	78.3	24
28	52.8	63.1	56.6	66.3	57.5	66.7	55.6	66.3	54.6	65.2	28
32	-	-	44.4	56.5	45.6	56.9	46.7	56.5	45.7	55.4	32
36	-	-	36.9	49.4	38.7	49.9	39.1	49.4	38.4	49.6	36
40	-	-	-	-	32.1	43.6	32.3	43.1	32.6	44.2	40
48	-	-	-	-	23.8	34.4	24.4	34.9	24.3	34.7	48
56	-	-	-	-	18.6	22.8	18.8	27.9	19.0	27.4	56
64	-	-	-	-	-	-	14.8	22.9	15.0	23.0	64
72	-	-	-	-	-	-	12.0	19.4	12.0	19.5	72
80	-	-	-	-	-	-	-	-	9.6	16.4	80
88	-	-	-	-	-	-	-	-	7.9	14.0	88

ft	360° 109.6 ft	Max. 109.6 ft	360° 123.4 ft	Max. 123.4 ft	360° 133.2 ft	Max. 133.2 ft	360° 148.6 ft	Max. 148.6 ft	360° 164.4 ft	Max. 164.4 ft	ft
1,000 lbs											
18	73.7	73.7	-	-	-	-	-	-	-	-	18
20	69.7	70.3	-	-	-	-	-	-	-	-	20
24	60.8	66.6	53.2	54.2	-	-	-	-	-	-	24
28	50.7	62.1	47.0	51.8	42.4	43.0	-	-	-	-	28
32	44.2	55.8	41.6	49.4	38.5	41.2	34.7	34.7	27.1	27.1	32
36	37.8	49.4	36.3	45.0	34.8	39.7	31.0	33.9	26.9	27.1	36
40	32.2	43.1	31.1	41.6	30.7	37.9	28.3	33.1	26.1	27.1	40
48	24.0	33.8	23.3	33.5	23.7	32.1	21.6	30.3	19.9	26.8	48
56	18.5	27.6	17.8	26.9	18.1	26.3	16.9	25.9	15.3	24.5	56
64	14.4	22.5	13.8	22.2	14.2	22.3	13.1	21.5	11.7	20.7	64
72	11.5	19.2	10.9	18.6	11.1	18.8	10.0	17.9	8.9	17.1	72
80	9.2	16.2	8.5	15.5	8.7	15.7	7.6	14.9	6.8	14.3	80
88	7.4	13.8	6.7	13.4	7.0	13.5	5.8	12.6	5.2	11.8	88
96	5.9	12.0	5.3	11.3	5.3	11.5	4.4	10.6	3.7	9.8	96
104	4.8	10.3	4.1	9.9	4.1	9.9	3.2	9.2	2.6	8.3	104
112	-	-	-	-	3.0	8.7	2.1	7.9	-	7.0	112
120	-	-	-	-	-	6.4	-	6.5	-	5.7	120
128	-	-	-	-	-	-	-	5.3	-	4.6	128
136	-	-	-	-	-	-	-	4.4	-	3.7	136
144	-	-	-	-	-	-	-	-	-	2.9	144

* Max. values are valid only for specific superstructure positions

Operation

HA
(HA50)

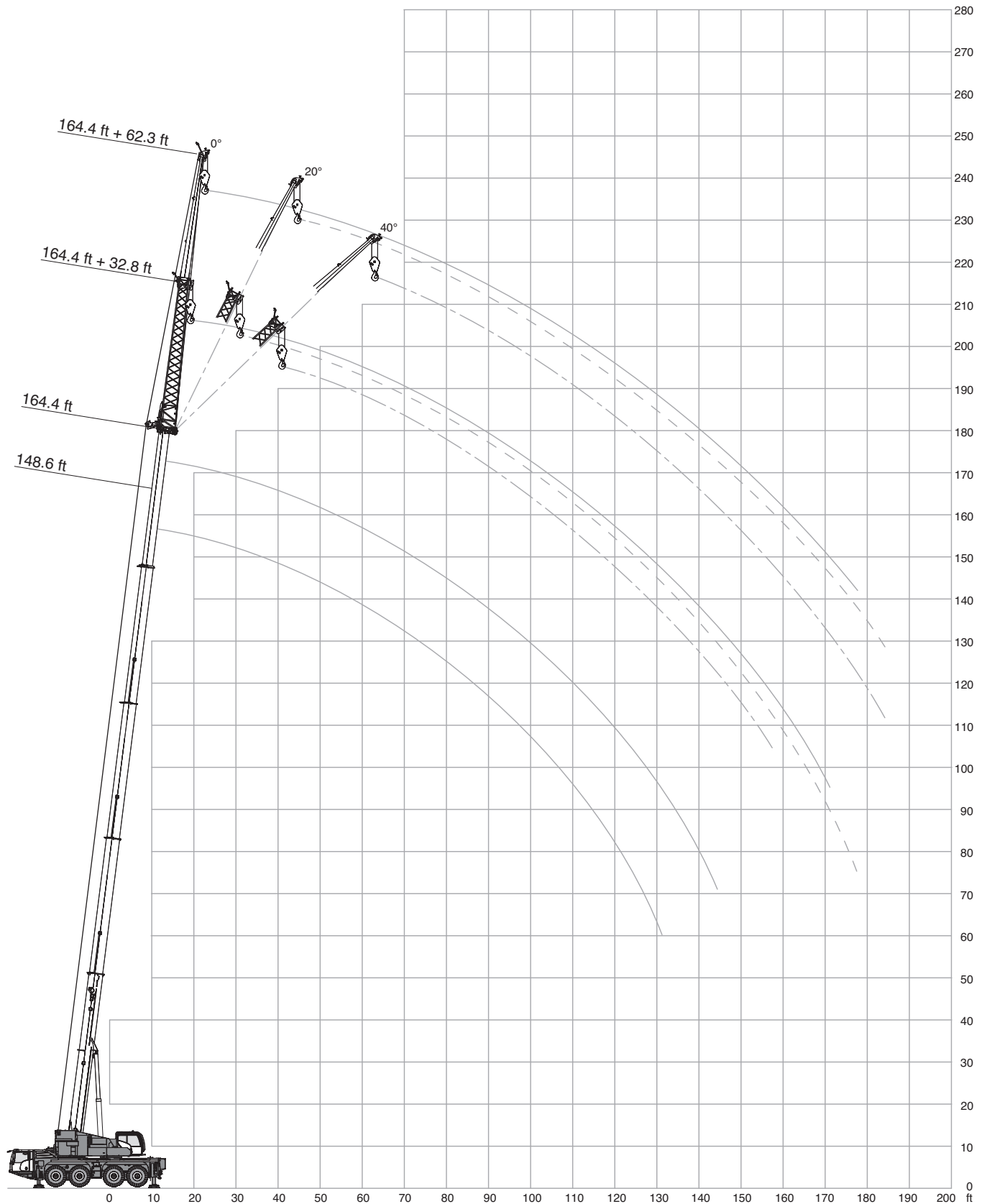
9,500 lbs		26.6 ft x 23.6 ft				360° / Max.*				ASME B30.5	
ft	360° 39.4 ft	Max. 39.4 ft	360° 53.5 ft	Max. 53.5 ft	360° 67.3 ft	Max. 67.3 ft	360° 81.4 ft	Max. 81.4 ft	360° 95.5 ft	Max. 95.5 ft	ft
1,000 lbs											
10	157.3	162.1	158.4	158.7	154.3	154.3	130.6	130.6	-	-	10
12	140.1	145.9	141.2	145.0	140.4	140.9	127.1	127.1	-	-	12
14	126.1	131.7	127.2	132.6	127.1	129.7	118.3	118.3	103.9	103.9	14
16	114.3	119.4	115.5	120.5	115.3	119.8	110.3	113.8	97.8	99.1	16
18	101.9	106.1	103.6	107.4	102.1	107.2	96.6	105.4	86.3	93.8	18
20	89.3	93.1	92.8	95.1	90.0	96.4	82.7	95.9	74.7	88.4	20
24	66.0	75.2	70.4	77.7	69.3	78.3	64.6	77.7	62.4	76.7	24
28	48.9	62.4	52.6	64.8	53.6	65.3	53.4	64.8	51.1	63.9	28
32	-	-	41.2	55.3	43.5	55.8	43.7	55.3	43.0	55.0	32
36	-	-	34.1	48.4	36.1	48.9	36.3	48.4	36.5	49.1	36
40	-	-	-	-	29.7	42.5	30.4	42.0	30.2	43.0	40
48	-	-	-	-	22.2	33.3	22.4	33.5	22.7	32.9	48
56	-	-	-	-	16.9	21.6	17.1	26.5	17.3	26.5	56
64	-	-	-	-	-	-	13.4	21.8	13.5	22.0	64
72	-	-	-	-	-	-	10.6	18.6	10.6	18.4	72
80	-	-	-	-	-	-	-	-	8.5	15.5	80
88	-	-	-	-	-	-	-	-	6.8	13.7	88

ft	360° 109.6 ft	Max. 109.6 ft	360° 123.4 ft	Max. 123.4 ft	360° 133.2 ft	Max. 133.2 ft	360° 148.6 ft	Max. 148.6 ft	360° 164.4 ft	Max. 164.4 ft	ft
1,000 lbs											
18	73.4	73.7	-	-	-	-	-	-	-	-	18
20	68.7	70.3	-	-	-	-	-	-	-	-	20
24	57.0	66.6	51.4	54.2	41.3	-	-	-	-	-	24
28	48.9	61.4	45.3	51.8	40.5	43.0	33.6	-	-	-	28
32	41.1	55.0	38.9	49.4	37.5	41.2	33.2	34.7	27.1	27.1	32
36	35.2	47.7	33.4	44.2	32.8	39.7	29.7	33.9	25.6	27.1	36
40	30.0	40.9	28.5	40.8	28.1	37.7	25.7	33.1	23.5	27.1	40
48	22.2	33.1	21.4	31.6	21.5	31.1	19.4	29.9	17.8	26.8	48
56	16.7	26.3	16.1	26.0	16.3	25.6	14.8	24.9	13.4	23.8	56
64	13.0	21.4	12.3	21.2	12.6	21.4	11.2	20.4	9.9	19.2	64
72	10.0	18.2	9.5	17.7	9.8	17.9	8.7	17.0	7.3	15.5	72
80	7.9	15.3	7.2	14.8	7.5	14.9	6.5	14.0	5.5	12.6	80
88	6.3	13.3	5.6	12.6	5.8	12.8	4.7	11.8	4.0	10.4	88
96	4.8	11.4	4.2	10.7	4.4	10.9	3.4	9.8	2.8	8.5	96
104	3.9	9.7	3.2	9.0	3.2	9.1	2.3	8.1	-	7.0	104
112	-	-	-	-	2.4	7.6	-	6.6	-	5.7	112
120	-	-	-	-	-	5.3	-	5.5	-	4.7	120
128	-	-	-	-	-	-	-	4.4	-	3.7	128
136	-	-	-	-	-	-	-	3.5	-	2.8	136
144	-	-	-	-	-	-	-	-	-	2.0	144

* Max. values are valid only for specific superstructure positions

Operation



HAV
(HA50)





Operation

HAV

(HA50)

54,000 lbs		26.6 ft x 23.6 ft		360°			ASME B30.5						
 164.4 ft					 148.6 ft								
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
40	14.6	-	-	8.4	-	-	36	17.9	-	-	-	-	-
48	14.6	-	-	8.4	-	-	40	17.9	-	-	10.1	-	-
56	14.6	14.6	-	8.4	-	-	48	17.9	-	-	10.1	-	-
64	14.6	14.6	13.4	8.4	-	-	56	17.9	17.9	-	10.1	-	-
72	14.6	13.9	12.6	8.4	-	-	64	17.9	17.9	16.2	10.1	-	-
80	14.5	13.1	12.0	8.4	8.4	-	72	17.9	17.6	15.9	10.1	9.9	-
88	13.9	12.2	11.3	8.4	8.4	7.5	80	16.7	16.8	15.6	10.1	9.7	8.1
96	12.1	11.5	10.7	8.4	8.1	7.1	88	14.7	15.3	15.1	10.1	9.4	7.8
104	10.2	10.9	10.2	8.4	7.6	6.9	96	12.3	13.3	13.7	10.0	9.1	7.6
112	8.5	9.4	9.8	7.9	7.0	6.4	104	11.0	11.3	11.7	9.7	8.9	7.5
120	7.2	7.8	8.3	7.4	6.7	6.1	112	9.4	9.8	9.8	9.0	8.6	7.3
128	5.9	6.6	6.9	6.2	6.3	5.8	120	7.9	8.5	8.9	7.6	8.3	7.3
136	4.9	5.4	5.8	5.1	6.0	5.6	128	6.8	7.3	7.6	6.8	7.6	7.2
144	4.0	4.4	4.7	4.2	5.1	5.3	136	5.8	6.2	6.4	6.0	6.4	6.9
152	3.2	3.6	3.6	3.4	4.3	4.9	144	4.7	5.1	5.3	4.9	5.5	6.0
160	2.5	2.8	-	2.6	3.5	3.9	152	3.9	4.3	-	4.1	5.0	5.0
168	-	-	-	-	2.8	3.1	160	3.3	3.5	-	3.4	4.2	4.5
176	-	-	-	-	2.1	2.3	168	-	-	-	2.8	3.3	3.1
							176	-	-	-	2.3	2.5	2.3
							184	-	-	-	-	2.0	-



 95.5 ft						
ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°
1,000 lbs						
16	29.1	-	-	-	-	-
18	29.1	-	-	-	-	-
20	29.1	-	-	17.4	-	-
24	29.1	-	-	17.1	-	-
28	29.1	-	-	16.9	-	-
32	29.1	27.6	-	16.6	-	-
36	29.1	26.4	-	16.3	-	-
40	29.1	25.2	19.3	16.0	-	-
48	29.1	23.4	18.5	15.3	13.0	-
56	28.3	21.9	17.8	14.8	12.2	-
64	25.7	20.6	17.3	14.1	11.4	9.1
72	21.5	19.4	17.0	13.5	10.8	8.8
80	18.5	18.4	16.7	12.7	10.3	8.3
88	16.3	16.3	16.0	12.1	9.7	8.2
96	14.5	14.5	14.6	11.3	9.3	8.0
104	12.8	13.1	8.6	10.5	9.1	7.7
112	11.1	7.9	-	9.9	8.6	7.7
120	7.4	-	-	9.4	8.4	7.7
128	-	-	-	8.6	8.4	5.1
136	-	-	-	7.9	8.0	-
144	-	-	-	7.1	6.0	-


 39.4 ft						
ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°
1,000 lbs						
10	29.1	-	-	21.6	-	-
12	29.1	-	-	21.5	-	-
14	29.1	-	-	21.4	-	-
16	29.1	29.1	-	21.1	-	-
18	29.1	29.1	-	20.7	-	-
20	29.1	28.9	-	20.4	-	-
24	29.1	26.8	-	19.6	-	-
28	29.1	24.7	20.3	18.8	-	-
32	29.1	23.0	19.3	17.9	14.5	-
36	27.2	21.6	18.5	16.9	13.7	-
40	24.8	20.3	17.8	15.9	12.9	-
48	21.2	18.4	16.9	13.8	11.6	-
56	18.5	17.2	-	12.2	10.6	9.3
64	-	-	-	11.0	9.6	8.7
72	-	-	-	9.9	9.1	8.2
80	-	-	-	9.2	8.6	-
88	-	-	-	8.6	-	-


Operation

HAV

(HA50)

42,500 lbs		26.6 ft x 23.6 ft		360°			ASME B30.5						
 164.4 ft					 148.6 ft								
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
40	14.6	-	-	8.4	-	-	36	17.9	-	-	-	-	-
48	14.6	-	-	8.4	-	-	40	17.9	-	-	10.1	-	-
56	14.6	14.6	-	8.4	-	-	48	17.9	-	-	10.1	-	-
64	14.6	14.6	13.4	8.4	-	-	56	17.9	17.9	-	10.1	-	-
72	14.6	13.9	12.6	8.4	-	-	64	17.9	17.9	16.2	10.1	-	-
80	14.2	13.1	12.0	8.4	8.4	-	72	17.6	17.6	15.9	10.1	9.9	-
88	11.8	12.2	11.3	8.4	8.4	7.5	80	14.6	15.7	15.5	10.1	9.7	8.1
96	9.7	10.8	10.7	8.4	8.1	7.1	88	12.7	13.1	14.0	10.1	9.4	7.8
104	7.9	8.8	9.5	7.8	7.6	6.9	96	10.6	11.0	11.5	9.7	9.1	7.6
112	6.5	7.2	7.8	6.5	7.0	6.4	104	8.8	9.5	10.0	8.4	8.9	7.5
120	5.3	5.9	6.4	5.3	6.6	6.1	112	7.2	7.9	8.5	7.4	8.3	7.3
128	4.2	4.8	5.2	4.3	5.5	5.8	120	6.1	6.6	7.0	6.3	7.0	7.3
136	3.3	3.8	4.0	3.3	4.4	5.3	128	5.0	5.5	5.7	5.2	5.9	6.7
144	2.5	2.9	3.1	2.5	3.6	4.2	136	4.0	4.4	4.7	4.2	5.1	5.6
152	-	-	2.3	-	2.8	3.4	144	3.1	3.6	3.8	3.3	4.2	4.9
160	-	-	-	-	2.0	2.6	152	2.4	2.8	-	2.6	3.4	3.9
							160	-	2.0	-	2.0	2.6	3.1



 95.5 ft						
ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°
1,000 lbs						
16	29.1	-	-	-	-	-
18	29.1	-	-	-	-	-
20	29.1	-	-	17.4	-	-
24	29.1	-	-	17.1	-	-
28	29.1	-	-	16.9	-	-
32	29.1	27.6	-	16.6	-	-
36	29.1	26.4	-	16.3	-	-
40	29.1	25.2	19.3	16.0	-	-
48	29.1	23.4	18.5	15.3	13.0	-
56	27.2	21.9	17.8	14.8	12.2	-
64	22.9	20.6	17.3	14.1	11.4	9.1
72	19.5	19.2	17.0	13.5	10.8	8.8
80	16.8	17.0	16.4	12.7	10.3	8.3
88	14.4	14.7	15.1	12.1	9.7	8.2
96	12.3	12.8	13.0	11.3	9.3	8.0
104	10.9	11.0	8.6	10.4	9.1	7.7
112	9.6	7.9	-	9.6	8.6	7.7
120	7.4	-	-	8.3	8.4	7.7
128	-	-	-	7.5	7.8	5.1
136	-	-	-	6.8	7.0	-
144	-	-	-	6.0	4.6	-


 39.4 ft						
ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°
1,000 lbs						
10	29.1	-	-	21.6	-	-
12	29.1	-	-	21.5	-	-
14	29.1	-	-	21.4	-	-
16	29.1	29.1	-	21.1	-	-
18	29.1	29.1	-	20.7	-	-
20	29.1	28.9	-	20.4	-	-
24	29.1	26.8	-	19.6	-	-
28	29.1	24.7	20.3	18.8	-	-
32	29.1	23.0	19.3	17.9	14.5	-
36	27.2	21.6	18.5	16.9	13.7	-
40	24.8	20.3	17.8	15.9	12.9	-
48	21.2	18.4	16.9	13.8	11.6	-
56	18.5	17.2	-	12.2	10.6	9.3
64	-	-	-	11.0	9.6	8.7
72	-	-	-	9.9	9.1	8.2
80	-	-	-	9.2	8.6	-
88	-	-	-	8.6	-	-


Operation

HAV

(HA50)

13,400 lbs		26.6 ft x 23.6 ft		360°			ASME B30.5						
 164.4 ft					 148.6 ft								
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
40	14.6	-	-	8.4	-	-	36	17.9	-	-	-	-	-
48	14.6	-	-	8.4	-	-	40	17.9	-	-	10.1	-	-
56	13.4	14.4	-	8.4	-	-	48	17.5	17.3	-	10.1	-	-
64	10.4	12.2	13.3	8.4	-	-	56	15.5	16.2	-	10.1	-	-
72	7.6	9.1	10.6	7.1	-	-	64	12.0	13.4	14.4	9.9	-	-
80	5.5	7.0	8.1	5.0	7.6	-	72	9.1	10.4	11.7	8.6	9.9	-
88	4.0	5.2	6.2	3.5	5.8	7.4	80	7.0	8.3	9.4	6.6	8.7	8.1
96	2.6	3.7	4.6	2.3	4.2	6.0	88	5.3	6.4	7.3	5.0	7.0	7.8
104	-	2.6	3.3	-	3.0	4.6	96	3.9	4.8	5.7	3.6	5.5	6.9
112	-	-	-	-	-	3.5	104	2.8	3.7	4.4	2.6	4.1	5.5
120	-	-	-	-	-	2.4	112	-	2.6	3.0	-	3.0	4.3
							120	-	-	-	-	2.2	3.3
							128	-	-	-	-	-	2.3

 95.5 ft						
ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°
1,000 lbs						
16	29.1	-	-	-	-	-
18	29.1	-	-	-	-	-
20	29.1	-	-	17.4	-	-
24	29.1	-	-	17.1	-	-
28	29.1	-	-	16.9	-	-
32	29.1	27.6	-	16.6	-	-
36	29.1	26.4	-	16.3	-	-
40	28.8	25.2	19.3	16.0	-	-
48	24.4	23.0	18.5	15.3	13.0	-
56	19.4	19.8	17.8	14.8	12.2	-
64	15.3	16.4	16.6	14.0	11.4	9.1
72	12.2	13.1	13.7	12.6	10.8	8.8
80	10.0	10.7	11.1	10.5	10.2	8.3
88	8.1	8.7	9.2	8.6	9.4	8.2
96	6.6	7.1	7.4	7.0	8.2	7.9
104	5.2	5.7	5.9	5.7	6.8	7.3
112	4.1	4.6	-	4.6	5.5	6.1
120	3.3	-	-	3.8	4.4	5.0
128	-	-	-	3.0	3.5	4.0
136	-	-	-	2.3	2.6	-
144	-	-	-	1.8	2.0	-

 39.4 ft						
ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°
1,000 lbs						
10	29.1	-	-	21.6	-	-
12	29.1	-	-	21.5	-	-
14	29.1	-	-	21.4	-	-
16	29.1	29.1	-	21.1	-	-
18	29.1	29.1	-	20.7	-	-
20	29.1	28.9	-	20.4	-	-
24	29.1	26.8	-	19.6	-	-
28	29.1	24.7	20.3	18.8	-	-
32	29.1	23.0	19.3	17.9	14.5	-
36	27.2	21.6	18.5	16.9	13.7	-
40	24.8	20.3	17.8	15.9	12.9	-
48	21.2	18.4	16.9	13.8	11.6	-
56	18.5	17.2	-	12.2	10.6	9.3
64	-	-	-	11.0	9.6	8.7
72	-	-	-	9.9	9.1	8.2
80	-	-	-	9.2	8.6	-
88	-	-	-	8.6	-	-

Operation

HAV

(HA50)

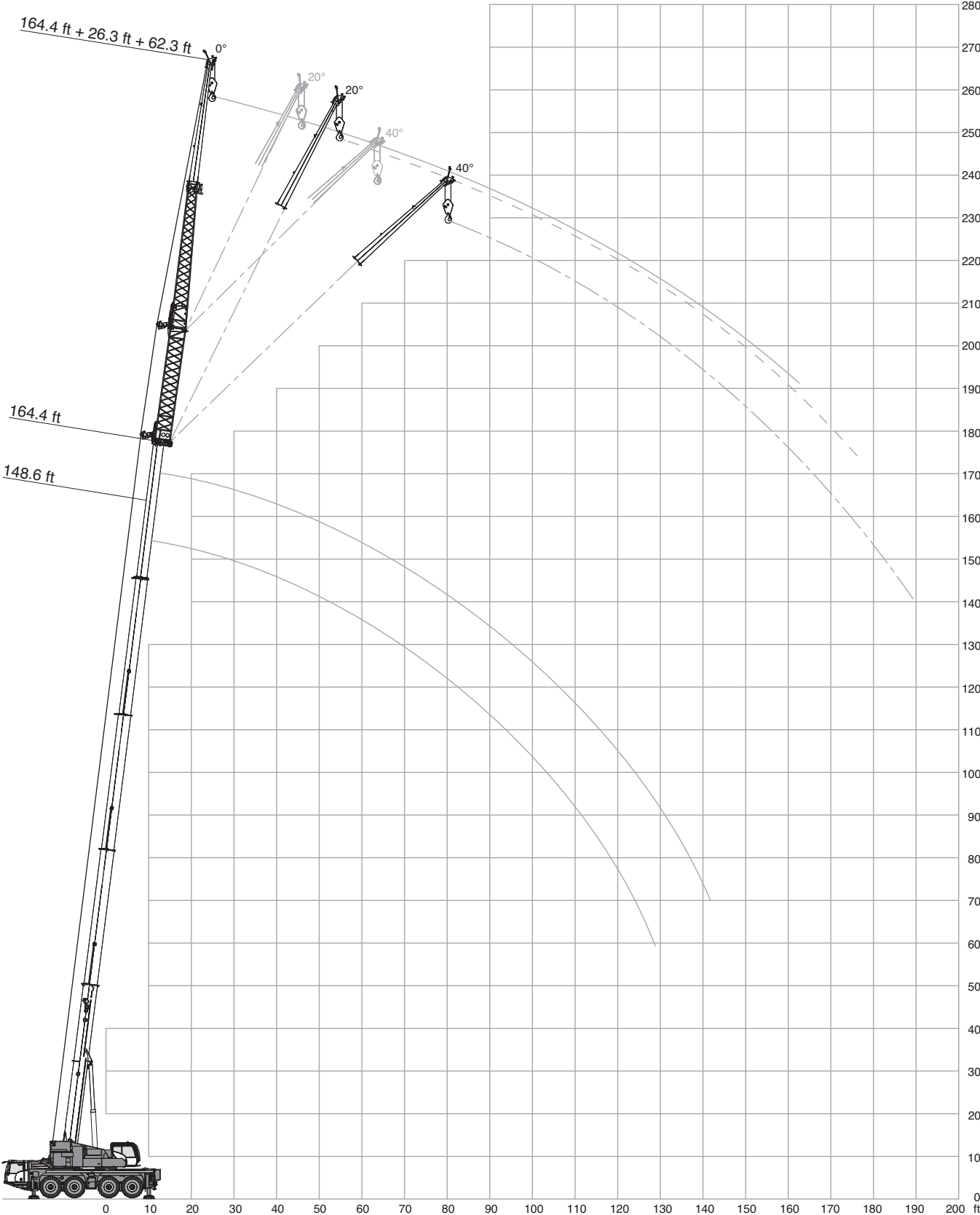
9,500 lbs		26.6 ft x 23.6 ft		360°			ASME B30.5						
164.4 ft					148.6 ft								
ft	32.8 ft			62.3 ft			ft	32.8 ft			62.3 ft		
	0°	20°	40°	0°	20°	40°		0°	20°	40°	0°	20°	40°
1,000 lbs													
40	14.6	-	-	8.4	-	-	36	17,9	-	-	-	-	-
48	14.2	-	-	8.4	-	-	40	17,9	-	-	10,1	-	-
56	11.8	13.5	-	8.4	-	-	48	16,9	17,3	-	10,1	-	-
64	8.5	10.4	12.1	7.5	-	-	56	13,6	15,2	14,3	10,1	-	-
72	6.2	7.8	9.1	5.6	-	-	64	10,3	12,0	13,1	9,3	-	-
80	4.4	5.7	6.8	3.8	6.3	-	72	7,6	9,1	10,4	7,1	9,7	-
88	2.9	4.0	5.0	2.4	4.6	6.6	80	5,7	7,0	8,0	5,3	7,6	8,1
96	-	2.6	3.5	-	3.3	5.0	88	4,2	5,2	6,1	3,7	5,8	7,4
104	-	-	2.3	-	2.1	3.7	96	2,8	3,9	4,6	2,5	4,4	6,0
112	-	-	-	-	-	2.4	104	1,9	2,6	3,3	-	3,2	4,6
							112	-	-	-	-	-	3,5
							120	-	-	-	-	-	2,5

95.5 ft		32.8 ft			62.3 ft		
ft	0°	20°	40°	0°	20°	40°	
	1,000 lbs						
16	29.1	-	-	-	-	-	
18	29.1	-	-	-	-	-	
20	29.1	-	-	17.4	-	-	
24	29.1	-	-	17.1	-	-	
28	29.1	-	-	16.9	-	-	
32	29.1	27.6	-	16.6	-	-	
36	29.1	26.4	-	16.3	-	-	
40	28.6	25.2	19.3	16.0	-	-	
48	23.1	22.4	18.5	15.3	13.0	-	
56	17.7	18.9	17.7	14.6	12.2	-	
64	13.9	14.9	15.6	13.4	11.4	9.1	
72	11.1	12.0	12.4	11.5	10.8	8.8	
80	8.7	9.6	10.1	9.4	10.0	8.3	
88	7.0	7.6	8.2	7.6	8.8	8.1	
96	5.5	6.1	6.4	6.1	7.2	7.8	
104	4.3	4.8	5.0	4.8	5.9	6.6	
112	3.5	3.7	-	3.9	4.8	5.4	
120	2.5	-	-	3.0	3.7	4.2	
128	-	-	-	2.3	2.8	3.2	
136	-	-	-	-	2.1	-	

39.4 ft		32.8 ft			62.3 ft		
ft	0°	20°	40°	0°	20°	40°	
	1,000 lbs						
10	29.1	-	-	21.6	-	-	
12	29.1	-	-	21.5	-	-	
14	29.1	-	-	21.4	-	-	
16	29.1	29.1	-	21.1	-	-	
18	29.1	29.1	-	20.7	-	-	
20	29.1	28.9	-	20.4	-	-	
24	29.1	26.8	-	19.6	-	-	
28	29.1	24.7	20.3	18.8	-	-	
32	29.1	23.0	19.3	17.9	14.5	-	
36	27.2	21.6	18.5	16.9	13.7	-	
40	24.8	20.3	17.8	15.9	12.9	-	
48	21.2	18.4	16.9	13.8	11.6	-	
56	17.5	16.9	-	12.2	10.6	9.3	
64	-	-	-	11.0	9.6	8.7	
72	-	-	-	9.9	9.1	8.2	
80	-	-	-	9.2	8.6	-	
88	-	-	-	8.5	-	-	

Operation

HAV-VA (HA50)



Operation

HAV-VA

(HA50)

54,000 lbs		26.3 ft x 23.6 ft					360°		ASME B30.5					
164.4 ft							148.6 ft							
		26.3 ft							26.3 ft					
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°	
		62.3 ft							62.3 ft					
		0°	20°	40°	0°	0°*			0°	20°	40°	0°	0°	
ft		1,000 lbs												
48	9.3	-	-	-	-	-			40	11.7	-	-	-	-
56	9.3	-	-	-	-	-			48	11.7	-	-	-	-
64	9.3	9.3	-	-	-	-			56	11.7	-	-	-	-
72	9.3	9.3	-	-	-	-			64	11.7	11.7	-	-	-
80	9.3	9.3	9.1	8.7	-	-			72	11.7	11.7	11.3	10.8	-
88	9.3	9.0	8.4	8.1	7.1	-			80	11.7	11.4	10.9	10.3	8.8
96	9.0	8.2	7.9	7.4	6.7	-			88	11.5	10.9	10.5	10.0	8.5
104	8.3	7.6	7.3	6.9	6.2	-			96	11.0	10.5	10.2	9.6	8.2
112	7.6	7.0	6.8	6.6	5.9	-			104	9.5	10.0	9.8	9.3	8.2
120	6.3	6.5	6.3	6.1	5.7	-			112	7.9	8.7	9.4	9.0	7.9
128	5.1	5.7	5.9	5.7	5.4	-			120	6.7	7.2	7.8	7.8	7.9
136	4.0	4.7	5.1	5.0	5.1	-			128	5.8	5.9	6.5	6.4	7.2
144	2.9	3.6	4.0	4.0	4.9	-			136	4.8	5.3	5.4	5.2	6.0
152	2.1	2.8	3.0	3.0	3.8	-			144	3.8	4.2	4.7	4.7	4.7
160	-	-	2.2	2.2	2.8	-			152	3.0	3.4	3.6	3.6	4.3
									160	2.3	2.6	2.8	2.8	3.3

95.5 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		62.3 ft				
		0°	20°	40°	0°	0°
ft		1,000 lbs				
24	25.4	-	-	-	-	-
28	24.6	-	-	-	-	-
32	23.6	-	-	-	-	-
36	22.5	19.1	-	-	-	-
40	21.4	18.2	-	-	-	-
48	19.4	16.6	14.7	14.3	-	-
56	17.7	15.3	13.8	13.2	-	-
64	16.0	14.1	12.9	12.3	10.0	-
72	14.6	13.0	12.1	11.5	9.7	-
80	13.5	12.2	11.4	10.9	9.2	-
88	12.5	11.4	10.8	10.3	8.9	-
96	11.7	10.7	10.3	9.9	8.7	-
104	10.9	10.2	10.0	9.3	8.4	-
112	9.9	9.7	9.7	8.8	8.4	-
120	8.8	9.0	5.0	8.5	8.2	-
128	7.9	7.9	-	7.9	4.5	-
136	6.9	7.1	-	7.2	-	-
144	5.8	4.0	-	4.0	-	-

39.4 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		62.3 ft				
		0°	20°	40°	0°	0°
ft		1,000 lbs				
10	29.1	-	-	-	-	-
12	29.1	-	-	-	-	-
14	29.1	-	-	-	-	-
16	29.1	-	-	-	-	-
18	29.1	-	-	-	-	-
20	28.9	24.3	-	-	-	-
24	26.0	22.2	-	-	-	-
28	23.4	20.2	-	-	-	-
32	21.2	18.6	16.8	16.4	-	-
36	19.3	17.3	15.8	15.3	-	-
40	17.7	16.1	14.9	14.4	-	-
48	15.3	14.1	13.3	12.8	11.0	-
56	13.4	12.4	11.9	11.4	10.0	-
64	12.0	11.2	11.0	10.5	9.4	-
72	10.6	10.2	10.2	9.5	8.8	-
80	9.6	9.4	-	9.0	-	-

 *161.1 ft

Operation

HAV-VA

(HA50)

42,500 lbs		26.3 ft x 23.6 ft					360°		ASME B30.5					
164.4 ft							148.6 ft							
		26.3 ft							26.3 ft					
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°	
		62.3 ft							62.3 ft					
		0°	20°	40°	0°	0°*			0°	20°	40°	0°	0°	
ft		1,000 lbs												
48	9.3	-	-	-	-	-			40	11.7	-	-	-	-
56	9.3	-	-	-	-	-			48	11.7	-	-	-	-
64	9.3	9.3	-	-	-	-			56	11.7	-	-	-	-
72	9.3	9.3	-	-	-	-			64	11.7	11.7	-	-	-
80	9.3	9.3	9.1	8.7	-	-			72	11.7	11.7	11.3	10.8	-
88	9.3	9.0	8.4	8.1	7.1	-			80	11.6	11.4	10.9	10.3	8.8
96	8.3	8.2	7.9	7.4	6.7	-			88	10.7	10.9	10.5	10.0	8.5
104	6.6	7.6	7.3	6.9	6.2	-			96	8.9	10.0	10.2	9.6	8.2
112	5.2	6.1	6.8	6.6	5.9	-			104	7.8	8.2	9.0	8.7	8.2
120	4.2	5.0	5.6	5.6	5.7	-			112	6.3	6.8	7.4	7.2	7.9
128	3.1	4.0	4.4	4.4	5.2	-			120	5.2	5.9	6.0	5.9	6.9
136	2.2	2.9	3.3	3.3	4.2	-			128	4.0	4.6	5.2	5.1	5.4
144	-	2.0	2.5	2.5	3.1	-			136	3.0	3.7	4.0	4.0	4.6
152	-	-	-	-	2.3	-			144	2.2	2.7	3.1	3.1	3.6
									152	-	-	2.1	2.1	2.7

95.5 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		62.3 ft				
		0°	20°	40°	0°	0°
ft		1,000 lbs				
24	25.4	-	-	-	-	-
28	24.6	-	-	-	-	-
32	23.6	-	-	-	-	-
36	22.5	19.1	-	-	-	-
40	21.4	18.2	-	-	-	-
48	19.4	16.6	14.7	14.3	-	-
56	17.7	15.3	13.8	13.2	-	-
64	16.0	14.1	12.9	12.3	10.0	-
72	14.6	13.0	12.1	11.5	9.7	-
80	13.5	12.2	11.4	10.9	9.2	-
88	12.4	11.4	10.8	10.3	8.9	-
96	11.2	10.7	10.3	9.9	8.7	-
104	10.1	10.0	10.0	9.3	8.4	-
112	8.5	9.0	9.0	8.8	8.3	-
120	7.4	7.7	5.0	7.9	8.0	-
128	6.6	6.7	-	6.7	4.5	-
136	5.5	5.8	-	5.9	-	-
144	4.9	4.0	-	4.0	-	-


39.4 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		62.3 ft				
		0°	20°	40°	0°	0°
ft		1,000 lbs				
10	29.1	-	-	-	-	-
12	29.1	-	-	-	-	-
14	29.1	-	-	-	-	-
16	29.1	-	-	-	-	-
18	29.1	-	-	-	-	-
20	28.9	24.3	-	-	-	-
24	26.0	22.2	-	-	-	-
28	23.4	20.2	-	-	-	-
32	21.2	18.6	16.8	16.4	-	-
36	19.3	17.3	15.8	15.3	-	-
40	17.7	16.1	14.9	14.4	-	-
48	15.3	14.1	13.3	12.8	11.0	-
56	13.4	12.4	11.9	11.4	10.0	-
64	12.0	11.2	11.0	10.5	9.4	-
72	10.6	10.2	10.2	9.5	8.8	-
80	9.6	9.4	-	9.0	-	-


 *161.1 ft


Operation


HAV-VA

(HA50)

13,400 lbs		26.6 ft x 23.6 ft		360°		ASME B30.5	
 164.4 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°	0°	0°*	
ft	1,000 lbs						
48	9.3	-	-	-	-	-	
56	9.3	-	-	-	-	-	
64	8.1	9.3	-	-	-	-	
72	5.8	7.5	-	-	-	-	
80	3.9	5.4	6.8	6.5	-	-	
88	2.4	3.6	5.0	4.7	6.7	-	
96	-	2.3	3.4	3.3	5.1	-	
104	-	-	2.1	1.9	3.7	-	
112	-	-	-	-	2.4	-	

 148.6 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
40	11.7	-	-	-	-	-	
48	11.7	-	-	-	-	-	
56	11.5	11.5	-	-	-	-	
64	10.0	11.3	-	-	-	-	
72	7.5	9.1	10.0	9.7	-	-	
80	5.4	6.9	8.1	7.9	8.6	-	
88	3.7	5.0	6.2	6.0	7.3	-	
96	2.5	3.5	4.5	4.4	6.0	-	
104	-	2.3	3.2	3.0	4.4	-	
112	-	-	-	-	3.2	-	

 95.5 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
24	25.4	-	-	-	-	-	
28	24.6	-	-	-	-	-	
32	23.6	-	-	-	-	-	
36	22.5	19.1	-	-	-	-	
40	21.4	18.2	-	-	-	-	
48	19.4	16.6	14.7	14.3	-	-	
56	17.2	15.3	13.8	13.2	-	-	
64	14.8	14.1	12.9	12.3	10.0	-	
72	12.0	12.6	12.1	11.5	9.7	-	
80	9.6	10.5	10.9	10.5	9.2	-	
88	7.6	8.4	9.1	9.0	8.8	-	
96	6.0	6.7	7.2	7.1	7.9	-	
104	4.6	5.2	5.7	5.7	6.4	-	
112	3.5	4.1	4.3	4.3	5.0	-	
120	2.7	3.1	3.3	3.3	3.7	-	
128	1.9	2.1	-	2.3	2.6	-	

 39.4 ft							
		26.3 ft					
		0°	0°	0°	20°	40°	
		62.3 ft					
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
10	29.1	-	-	-	-	-	
12	29.1	-	-	-	-	-	
14	29.1	-	-	-	-	-	
16	29.1	-	-	-	-	-	
18	29.1	-	-	-	-	-	
20	28.9	24.3	-	-	-	-	
24	26.0	22.2	-	-	-	-	
28	23.4	20.2	-	-	-	-	
32	21.2	18.6	16.8	16.4	-	-	
36	19.3	17.3	15.8	15.3	-	-	
40	17.7	16.1	14.9	14.4	-	-	
48	15.3	14.1	13.3	12.8	11.0	-	
56	13.4	12.4	11.9	11.4	10.0	-	
64	12.0	11.2	11.0	10.5	9.4	-	
72	10.6	10.2	10.2	9.5	8.8	-	
80	9.6	9.4	-	9.0	-	-	

 *161.1 ft

Operation

HAV-VA

(HA50)

9,500 lbs		26.3 ft x 23.6 ft					360°		ASME B30.5					
164.4 ft							148.6 ft							
		26.3 ft							26.3 ft					
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°	
		62.3 ft							62.3 ft					
		0°	20°	40°	0°	0°*			0°	20°	40°	0°	0°	
ft		1,000 lbs												
48	9.3	-	-	-	-	-			40	11.7	-	-	-	-
56	8.9	-	-	-	-	-			48	11.7	-	-	-	-
64	6.8	8.4	-	-	-	-			56	10.9	11.5	-	-	-
72	4.5	6.2	-	-	-	-			64	8.5	10.1	-	-	-
80	2.6	4.2	5.4	5.3	-	-			72	6.0	7.6	9.1	8.8	-
88	-	2.6	3.6	3.6	5.8	-			80	4.2	5.7	6.8	6.5	8.3
96	-	-	2.3	2.2	4.2	-			88	2.6	3.9	5.0	4.7	6.6
104	-	-	-	-	2.8	-			96	-	2.5	3.5	3.3	4.9
									104	-	-	2.2	2.1	3.5











95.5 ft														
		26.3 ft							26.3 ft					
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°	
		62.3 ft							62.3 ft					
		0°	20°	40°	0°	0°			0°	20°	40°	0°	0°	
ft		1,000 lbs												
24	25.4	-	-	-	-	-			10	29.1	-	-	-	-
28	24.6	-	-	-	-	-			12	29.1	-	-	-	-
32	23.6	-	-	-	-	-			14	29.1	-	-	-	-
36	22.5	19.1	-	-	-	-			16	29.1	-	-	-	-
40	21.4	18.2	-	-	-	-			18	29.1	-	-	-	-
48	18.9	16.6	14.7	14.3	-	-			20	28.9	24.3	-	-	-
56	16.4	15.3	13.8	13.2	-	-			24	26.0	22.2	-	-	-
64	13.7	13.7	12.9	12.3	10.0	-			28	23.4	20.2	-	-	-
72	10.6	11.7	11.9	11.5	9.7	-			32	21.2	18.6	16.8	16.4	-
80	8.3	9.4	10.2	9.8	9.2	-			36	19.3	17.3	15.8	15.3	-
88	6.5	7.4	8.0	7.8	8.5	-			40	17.7	16.1	14.9	14.4	-
96	5.0	5.8	6.2	6.2	7.1	-			48	15.3	14.1	13.3	12.8	11.0
104	3.7	4.4	4.8	4.8	5.5	-			56	13.4	12.4	11.9	11.4	10.0
112	2.8	3.2	3.5	3.5	4.1	-			64	12.0	11.2	11.0	10.5	9.4
120	-	2.2	2.5	2.6	3.1	-			72	10.6	10.2	10.2	9.5	8.8
128	-	-	-	-	2.0	-			80	9.4	9.3	-	9.0	-











 *161.1 ft











Operation

HAV-VA

(HA50)

54,000 lbs		26.6 ft x 23.6 ft		360°		ASME B30.5	
 164.4 ft		 148.6 ft					
 		26.3 ft		26.3 ft		 	
		0°	0°	0°	20°	40°	
 		32.8 ft		32.8 ft		 	
		0°	20°*	40°*	0°	0°	
ft	1,000 lbs						
56	5.5	-	-	-	-	-	
64	5.5	-	-	-	-	-	
72	5.5	-	-	-	-	-	
80	5.5	5.7	-	-	-	-	
88	5.5	5.7	-	-	-	-	
96	5.5	5.7	-	-	-	-	
104	5.5	5.5	5.1	-	-	-	
112	5.5	5.1	4.8	-	-	-	
120	5.2	4.8	4.5	-	-	-	
128	4.7	4.4	4.1	-	-	-	
136	3.8	4.0	3.8	-	-	-	
144	2.9	3.8	3.5	-	-	-	
152	2.1	3.4	3.3	-	-	-	
160	-	2.6	3.2	-	-	-	
168	-	-	2.7	-	-	-	
176	-	-	1.9	-	-	-	

 95.5 ft		 39.4 ft					
 		26.3 ft		26.3 ft		 	
		0°	0°	0°	20°	40°	
 		32.8 ft		32.8 ft		 	
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
28	13.4	-	-	-	-	-	
32	13.4	-	-	-	-	-	
36	13.2	-	-	-	-	-	
40	12.9	-	-	-	-	-	
48	12.1	-	-	-	-	-	
56	11.3	10.0	-	-	-	-	
64	10.5	9.2	-	8.3	-	-	
72	9.9	8.6	7.7	7.7	-	-	
80	9.1	8.1	7.2	7.2	-	-	
88	8.4	7.5	6.9	6.7	5.6	-	
96	7.9	7.0	6.5	6.3	5.2	-	
104	7.3	6.6	6.2	6.0	4.9	-	
112	6.8	6.2	5.9	5.7	4.8	-	
120	6.3	5.9	5.7	5.2	4.6	-	
128	5.9	5.6	5.4	5.0	4.4	-	
136	5.6	5.2	5.1	4.7	4.4	-	
144	5.1	5.1	5.1	4.6	4.4	-	
152	4.8	4.8	2.6	4.4	-	-	
160	4.5	4.6	-	4.4	-	-	

 39.4 ft		 161.1 ft					
 		26.3 ft		26.3 ft		 	
		0°	0°	0°	20°	40°	
 		32.8 ft		32.8 ft		 	
		0°	20°	40°	0°	0°	
ft	1,000 lbs						
14	17.9	-	-	-	-	-	
16	17.9	-	-	-	-	-	
18	17.8	-	-	-	-	-	
20	17.6	-	-	-	-	-	
24	16.8	-	-	-	-	-	
28	16.0	-	-	-	-	-	
32	15.2	-	-	-	-	-	
36	14.2	-	-	-	-	-	
40	13.3	12.0	-	-	-	-	
48	11.7	10.5	-	9.6	-	-	
56	10.2	9.4	8.7	8.6	-	-	
64	9.0	8.4	7.9	7.7	-	-	
72	8.2	7.5	7.1	7.1	-	-	
80	7.4	6.7	6.5	6.3	5.6	-	
88	6.6	6.2	6.1	5.8	5.2	-	
96	5.9	5.7	5.7	5.2	4.9	-	
104	5.4	5.3	-	4.9	4.7	-	
112	4.8	-	-	-	-	-	

 *161.1 ft **137.5 ft

Operation

HAV-VA

(HA50)

42,500 lbs		26.6 ft x 23.6 ft					360°		ASME B30.5				
164.4 ft							148.6 ft						
		26.3 ft							26.3 ft				
		0°	0°	0°	20°	40°			0°	0°	0°	20°	40°
		32.8 ft							32.8 ft				
		0°	20°*	40°*	0°	0°			0°	20°	40°	0°	0°**
ft	1,000 lbs												
56	5.5	-	-	-	-	-	48	6.8	-	-	-	-	-
64	5.5	-	-	-	-	-	56	6.8	-	-	-	-	-
72	5.5	-	-	-	-	-	64	6.8	-	-	-	-	-
80	5.5	5.7	-	-	-	-	72	6.8	-	-	-	-	-
88	5.5	5.7	-	-	-	-	80	6.8	6.8	-	-	-	-
96	5.5	5.7	-	-	-	-	88	6.8	6.7	-	6.0	-	-
104	5.5	5.5	5.1	-	-	-	96	6.8	6.5	6.0	5.8	-	-
112	4.8	5.1	4.8	-	-	-	104	6.6	6.2	5.8	5.5	4.9	-
120	3.7	4.8	4.5	-	-	-	112	5.5	5.9	5.7	5.5	4.8	-
128	2.8	4.3	4.1	-	-	-	120	4.9	5.6	5.4	5.2	4.6	-
136	1.9	3.5	3.8	-	-	-	128	4.0	4.8	5.3	5.0	4.4	-
144	-	2.7	3.5	-	-	-	136	3.0	3.9	4.8	4.2	4.2	-
152	-	-	2.8	-	-	-	144	2.4	3.5	3.8	3.3	4.2	-
160	-	-	2.0	-	-	-	152	-	2.5	3.2	2.5	3.4	-
							160	-	-	2.4	-	2.4	-

95.5 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		32.8 ft				
		0°	20°*	40°*	0°	0°
ft	1,000 lbs					
28	13.4	-	-	-	-	-
32	13.4	-	-	-	-	-
36	13.2	-	-	-	-	-
40	12.9	-	-	-	-	-
48	12.1	-	-	-	-	-
56	11.3	10.0	-	-	-	-
64	10.5	9.2	-	8.3	-	-
72	9.9	8.6	7.7	7.7	-	-
80	9.1	8.1	7.2	7.2	-	-
88	8.4	7.5	6.9	6.7	5.6	-
96	7.9	7.0	6.5	6.3	5.2	-
104	7.3	6.6	6.2	6.0	4.9	-
112	6.8	6.2	5.9	5.7	4.8	-
120	6.3	5.9	5.7	5.2	4.6	-
128	5.8	5.6	5.4	5.0	4.4	-
136	5.4	5.1	5.1	4.7	4.4	-
144	4.9	4.9	5.1	4.6	4.4	-
152	4.3	4.6	2.6	4.4	-	-
160	3.6	3.9	-	4.0	-	-

39.4 ft						
		26.3 ft				
		0°	0°	0°	20°	40°
		32.8 ft				
		0°	20°*	40°*	0°	0°
ft	1,000 lbs					
14	17.9	-	-	-	-	-
16	17.9	-	-	-	-	-
18	17.8	-	-	-	-	-
20	17.6	-	-	-	-	-
24	16.8	-	-	-	-	-
28	16.0	-	-	-	-	-
32	15.2	-	-	-	-	-
36	14.2	-	-	-	-	-
40	13.3	12.0	-	-	-	-
48	11.7	10.5	-	9.6	-	-
56	10.2	9.4	8.7	8.6	-	-
64	9.0	8.4	7.9	7.7	-	-
72	8.2	7.5	7.1	7.1	-	-
80	7.4	6.7	6.5	6.3	5.6	-
88	6.6	6.2	6.1	5.8	5.2	-
96	5.9	5.7	5.7	5.2	4.9	-
104	5.4	5.3	-	4.9	4.7	-
112	4.8	-	-	-	-	-

 *161.1 ft **137.5 ft

Operation

HAV-VA

(HA50)

13,400 lbs		26.6 ft x 23.6 ft		360°		ASME B30.5	
164.4 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°*		40°*	
				0°		0°	
ft		1,000 lbs					
56	5.5	-	-	-	-	-	-
64	5.5	-	-	-	-	-	-
72	5.1	-	-	-	-	-	-
80	3.3	5.6	-	-	-	-	-
88	-	4.5	-	-	-	-	-
96	-	3.1	-	-	-	-	-
104	-	1.9	3.7	-	-	-	-
112	-	-	2.6	-	-	-	-

148.6 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°		40°	
				0°		0°**	
ft		1,000 lbs					
48	6.8	-	-	-	-	-	-
56	6.8	-	-	-	-	-	-
64	6.8	-	-	-	-	-	-
72	6.6	-	-	-	-	-	-
80	4.8	6.6	-	-	-	-	-
88	3.3	5.6	-	-	5.6	-	-
96	2.1	4.2	5.6	4.4	-	-	-
104	-	2.8	4.6	3.0	4.9	-	-
112	-	-	3.2	-	4.3	-	-
120	-	-	2.2	-	3.1	-	-
128	-	-	-	-	2.0	-	-

95.5 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°		40°	
				0°		0°	
ft		1,000 lbs					
28	13.4	-	-	-	-	-	-
32	13.4	-	-	-	-	-	-
36	13.2	-	-	-	-	-	-
40	12.9	-	-	-	-	-	-
48	12.1	-	-	-	-	-	-
56	11.3	10.0	-	-	-	-	-
64	10.5	9.2	-	8.3	-	-	-
72	9.9	8.6	7.7	7.7	-	-	-
80	8.8	8.1	7.2	7.2	-	-	-
88	7.7	7.5	6.9	6.7	5.6	-	-
96	6.4	6.9	6.5	6.3	5.2	-	-
104	5.0	6.2	6.0	5.8	4.9	-	-
112	3.9	5.0	5.7	5.2	4.8	-	-
120	2.9	3.9	4.8	4.2	4.5	-	-
128	2.2	3.0	3.7	3.2	3.7	-	-
136	-	2.2	2.7	2.4	2.7	-	-
144	-	-	1.8	1.6	1.8	-	-

39.4 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°		40°	
				0°		0°	
ft		1,000 lbs					
14	17.9	-	-	-	-	-	-
16	17.9	-	-	-	-	-	-
18	17.8	-	-	-	-	-	-
20	17.6	-	-	-	-	-	-
24	16.8	-	-	-	-	-	-
28	16.0	-	-	-	-	-	-
32	15.2	-	-	-	-	-	-
36	14.2	-	-	-	-	-	-
40	13.3	12.0	-	-	-	-	-
48	11.7	10.5	-	9.6	-	-	-
56	10.2	9.4	8.7	8.6	-	-	-
64	9.0	8.4	7.9	7.7	-	-	-
72	8.2	7.5	7.1	7.1	-	-	-
80	7.4	6.7	6.5	6.3	5.6	-	-
88	6.6	6.2	6.1	5.8	5.2	-	-
96	5.9	5.7	5.7	5.2	4.9	-	-
104	5.4	5.3	-	4.9	4.7	-	-
112	4.8	-	-	-	-	-	-

 *161.1 ft **137.5 ft

Operation

HAV-VA

(HA50)

9,500 lbs		26.6 ft x 23.6 ft		360°		ASME B30.5	
164.4 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°*		40°*	
				0°		0°	
ft	1,000 lbs						
56	5.5	-	-	-	-	-	-
64	5.3	-	-	-	-	-	-
72	3.8	-	-	-	-	-	-
80	-	5.2	-	-	-	-	-
88	-	3.4	-	-	-	-	-
96	-	2.1	-	-	-	-	-
104	-	-	2.8	-	-	-	-

148.6 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°		40°	
				0°		0°**	
ft	1,000 lbs						
48	6.8	-	-	-	-	-	-
56	6.8	-	-	-	-	-	-
64	6.6	-	-	-	-	-	-
72	5.3	-	-	-	-	-	-
80	3.5	6.3	-	-	-	-	-
88	2.2	4.5	-	-	4.7	-	-
96	-	3.1	5.0	3.3	-	-	-
104	-	1.9	3.7	1.9	4.7	-	-
112	-	-	2.4	-	3.5	-	-
120	-	-	-	-	2.2	-	-

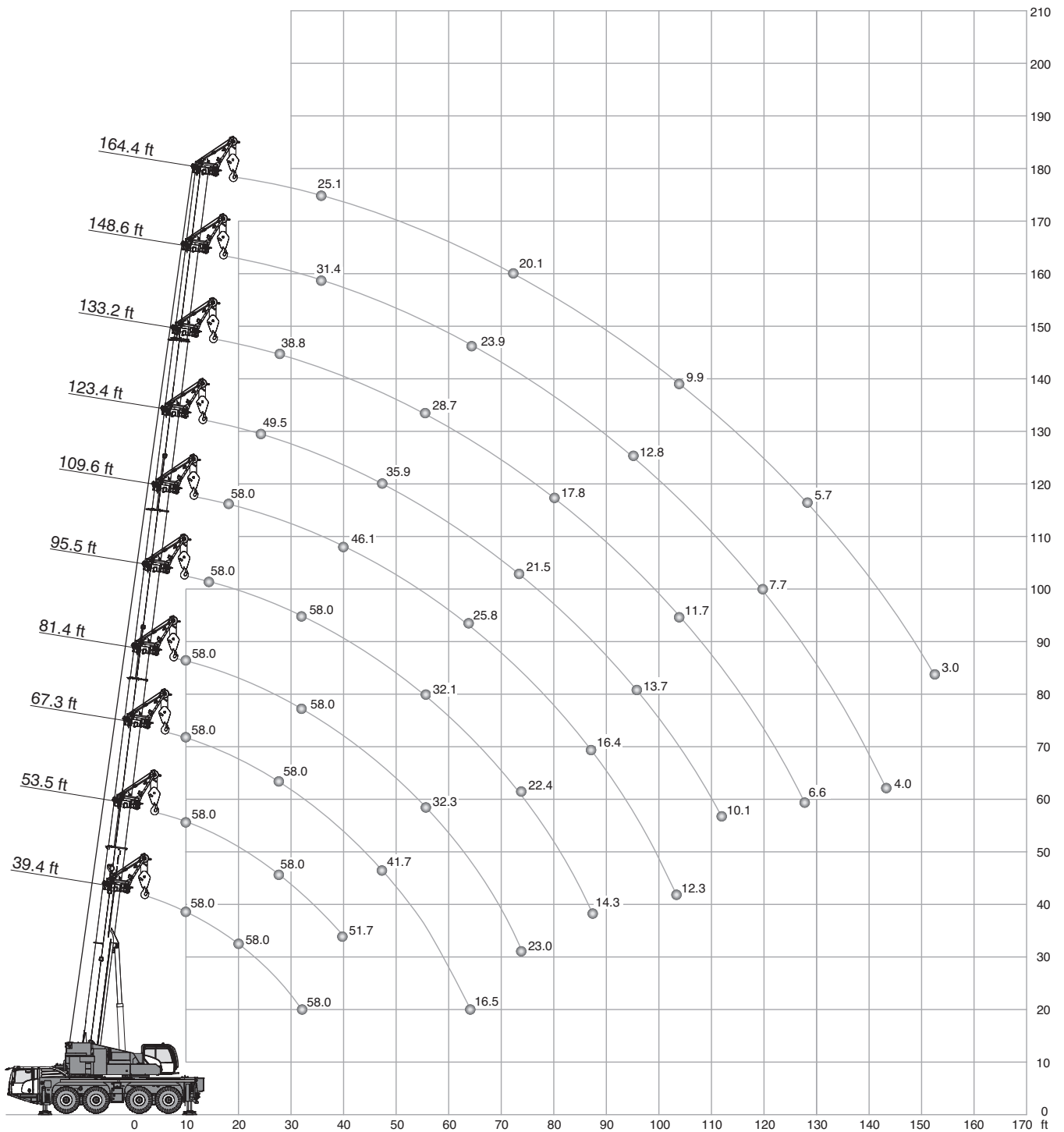
95.5 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°		40°	
				0°		0°	
ft	1,000 lbs						
28	13.4	-	-	-	-	-	-
32	13.4	-	-	-	-	-	-
36	13.2	-	-	-	-	-	-
40	12.9	-	-	-	-	-	-
48	12.1	-	-	-	-	-	-
56	11.3	10.0	-	-	-	-	-
64	10.5	9.2	-	8.3	-	-	-
72	9.5	8.6	7.7	7.7	-	-	-
80	8.3	8.1	7.2	7.2	-	-	-
88	6.7	7.3	6.9	6.7	5.6	-	-
96	5.3	6.6	6.5	6.3	5.2	-	-
104	4.1	5.5	6.0	5.6	4.9	-	-
112	3.0	4.3	5.2	4.6	4.8	-	-
120	2.2	3.3	3.9	3.5	4.2	-	-
128	-	2.3	3.0	2.5	3.1	-	-
136	-	-	2.2	1.7	2.0	-	-

39.4 ft							
		26.3 ft		0°		0°	
		32.8 ft		0°		20°	
				0°		40°	
				20°		40°	
				0°		0°	
ft	1,000 lbs						
14	17.9	-	-	-	-	-	-
16	17.9	-	-	-	-	-	-
18	17.8	-	-	-	-	-	-
20	17.6	-	-	-	-	-	-
24	16.8	-	-	-	-	-	-
28	16.0	-	-	-	-	-	-
32	15.2	-	-	-	-	-	-
36	14.2	-	-	-	-	-	-
40	13.3	12.0	-	-	-	-	-
48	11.7	10.5	-	9.6	-	-	-
56	10.2	9.4	8.7	8.6	-	-	-
64	9.0	8.4	7.9	7.7	-	-	-
72	8.2	7.5	7.1	7.1	-	-	-
80	7.4	6.7	6.5	6.3	5.6	-	-
88	6.6	6.2	6.1	5.8	5.2	-	-
96	5.9	5.7	5.7	5.2	4.9	-	-
104	5.4	5.3	-	4.9	4.7	-	-
112	4.8	-	-	-	-	-	-

 *161.1 ft **137.5 ft

Operation

MS
(HA50)



Operation

MS

(HA50)

13,400 lbs		26.6 ft x 23.6 ft										360°		ASME B30.5	
		(ft)													
		1,000 lbs													
ft		39.4	53.5	67.3	81.4	95.5	109.6	123.4	133.2	148.6	164.4	ft		ft	
10	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	10		10	
12	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	12		12	
14	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	14		14	
16	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	16		16	
18	58.0	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	18		18	
20	58.0	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	20		20	
24	58.0	58.0	58.0	58.0	58.0	57.6	56.1	49.4	-	-	-	24		24	
28	53.4	54.9	55.3	54.4	52.7	49.6	45.1	38.8	31.0	-	-	28		28	
32	42.9	45.8	46.3	45.7	45.4	42.6	40.5	36.2	30.7	-	-	32		32	
36	-	37.9	38.4	38.8	38.5	37.5	35.7	33.4	29.5	25.1	-	36		36	
40	-	31.0	32.6	32.8	32.8	32.1	30.7	30.1	27.4	24.7	-	40		40	
48	-	-	24.1	24.2	24.3	23.9	23.3	23.0	20.9	19.0	-	48		48	
56	-	-	18.5	18.8	18.8	18.3	17.7	17.7	16.1	14.5	-	56		56	
64	-	-	14.6	14.6	14.8	14.2	13.5	13.7	12.4	10.8	-	64		64	
72	-	-	-	11.7	11.7	11.1	10.4	10.4	9.5	8.0	-	72		72	
80	-	-	-	-	9.4	8.7	8.1	8.3	7.2	6.1	-	80		80	
88	-	-	-	-	7.4	7.0	6.3	6.3	5.4	4.3	-	88		88	
96	-	-	-	-	-	5.3	4.8	4.8	3.8	3.0	-	96		96	
104	-	-	-	-	-	4.1	3.5	3.5	2.6	1.7	-	104		104	
112	-	-	-	-	-	-	2.4	2.6	-	-	-	112		112	

9,500 lbs		26.6 ft x 23.6 ft										360°		ASME B30.5	
		(ft)													
		1,000 lbs													
ft		39.4	53.5	67.3	81.4	95.5	109.6	123.4	133.2	148.6	164.4	ft		ft	
10	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	10		10	
12	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	-	12		12	
14	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	14		14	
16	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	-	16		16	
18	58.0	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	18		18	
20	58.0	58.0	58.0	58.0	58.0	58.0	58.0	-	-	-	-	20		20	
24	57.8	58.0	58.0	57.5	56.7	54.9	48.2	38.0	-	-	-	24		24	
28	51.2	53.0	53.4	52.0	50.2	46.9	43.4	38.0	31.0	-	-	28		28	
32	39.7	42.6	43.1	43.5	42.3	40.6	38.3	36.2	30.7	-	-	32		32	
36	-	35.2	35.6	36.9	35.7	35.1	33.0	32.1	28.2	24.3	-	36		36	
40	-	28.9	30.2	30.4	30.4	30.0	28.1	27.4	25.0	22.9	-	40		40	
48	-	-	22.2	22.6	22.7	22.0	21.2	20.9	18.7	16.9	-	48		48	
56	-	-	17.0	17.1	17.2	16.5	16.0	16.0	14.2	12.7	-	56		56	
64	-	-	13.2	13.3	13.3	12.6	12.2	12.2	10.8	9.3	-	64		64	
72	-	-	-	10.4	10.4	9.8	9.1	9.1	8.0	6.7	-	72		72	
80	-	-	-	-	8.1	7.6	7.0	7.0	5.9	4.6	-	80		80	
88	-	-	-	-	6.4	5.8	5.2	5.2	4.3	3.1	-	88		88	
96	-	-	-	-	-	4.4	3.7	3.9	2.8	1.9	-	96		96	
104	-	-	-	-	-	3.2	2.6	2.6	1.7	-	-	104		104	

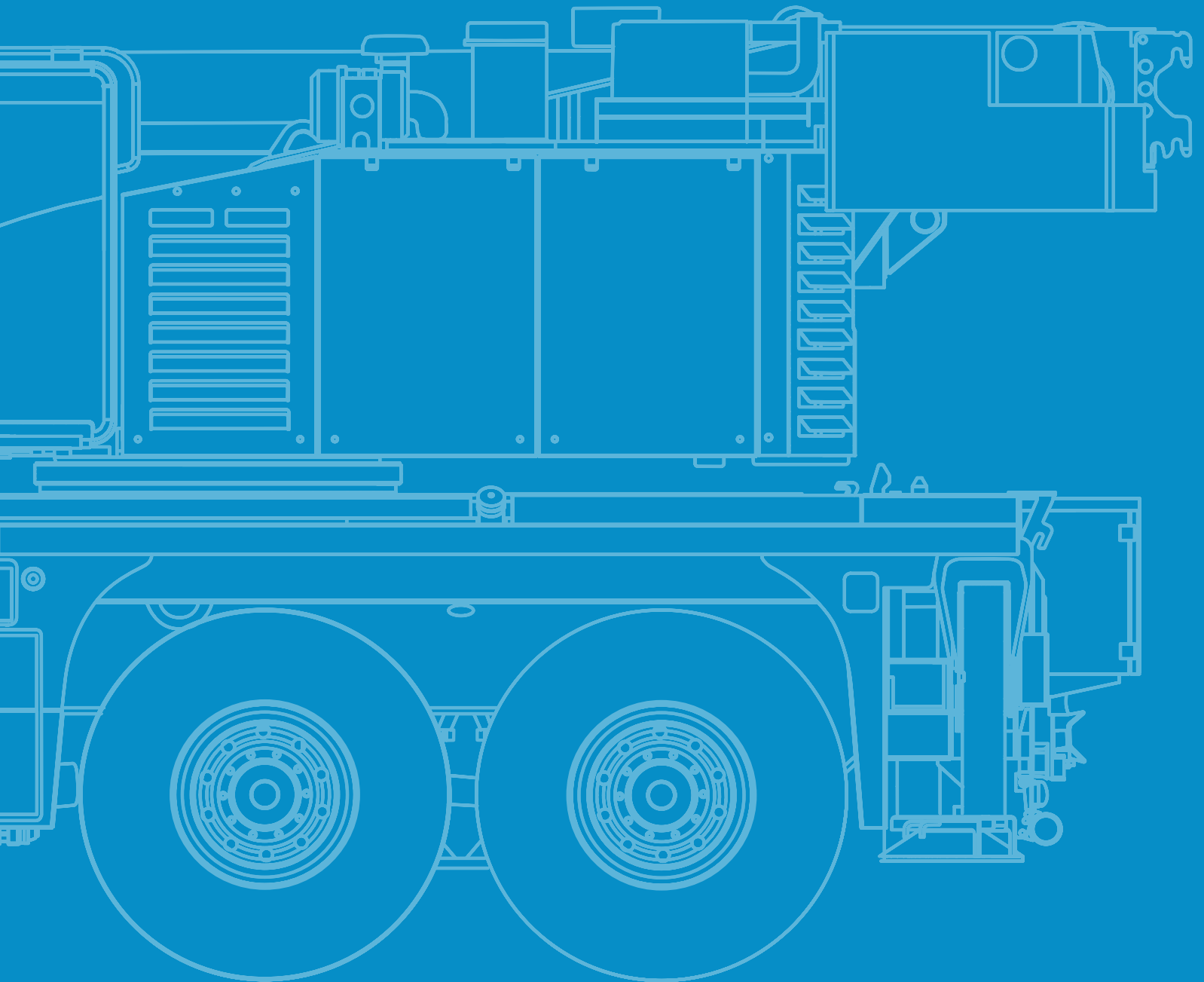
Notes to Lifting Capacity

Ratings are in compliance with ASME B30.5.
Lifting capacities do not exceed 85 % of tipping load.

Weight of hook blocks and slings is part of the load, and is to be deducted from the capacity ratings.
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.

TECHNICAL DESCRIPTION



Technical Description

Basic machine

Equipment carrier

Engine 340-5	Mercedes-Benz OM471; Diesel engine; Output 340 kW/1600 1/min (462 HP), torque 2300 Nm/1300 1/min; The engine complies with EU Stage V/Tier 4F; Exhaust system complete stainless steel with SCR catalyzer.
Fuel tank	108 gallons (no RME / biodiesel); 11 gallons AdBlue tank.
Transmission G230-12	Mercedes-Benz G230-12; Automated gearbox; 12 forward speeds and 2 reverse; 2-stage transfer case with switchable longitudinal lock.
Axles 8 x 4 x 8	All 4 axles steered, axles 1 and 4 are driven and equipped with selectable transverse lock.
Suspension	Hydropneumatic suspension with axle load compensation; Hydraulically lockable; Manual or automatic levelling alternatively.
Steering	Dual circuit hydro servocom steering with emergency steering pump; Active rear axle steering (axles 3 and 4) with 6 different steering programs.
Brakes	Pneumatic dual circuit service brake with antilock system, acting on all wheels; Disc brakes; Additional exhaust brake and constant throttle valve; Spring-loaded parking brake; Incl. ABS.
Tires	Tires size 385/95 R25 (14.00R25); Steel rims 9,50-25/1,7“
Cab 2550	Type 8.4ft; Adjustable driver seat, armrests and pneumatic suspension; Steering wheel height and tilt adjustable; Power door windows; Tinted glass; Radio; Seat heating; Heating engine-dependent; Aircondition.
Drive lights	Including low beam, upper beam, daytime running lights, fog lights and cornering lights.
Central lubrication	Automatic central lubrication system for the lubricating points at the carrier.
Outriggers	H-4-Point design; Vertical and horizontal movement fully hydraulic; Manual or automatic levelling alternatively on both sides of carrier; 4 outrigger bases. 4 outrigger pads 0.92 ft ² with transport position at vertical cylinder.
Outrigger basis monitoring	Individual monitoring of horizontal stroke; Deviation warning in cab.
Outrigger load indicator	The outrigger load is indicated in the operator cab and the outrigger control box.
Electronic immobilizer system	Prevents uncontrolled carrier mobilization; Incl. 5 ignition keys.
Pneumatic tire filling plug	For self-inflating of the wheels.

Equipment superstructure

Engine 129-5	Mercedes-Benz OM934; Diesel engine; Output 129 kW/1800 1/min (175 HP), torque 750 Nm/1200-1600 1/min; The engine complies with EU Stage V/Tier 4F; Exhaust system complete stainless steel with SCR catalyzer.
Fuel tank	53 gallons Diesel (no RME/ Biodiesel); 6.6 gallons AdBlue tank.
Telescopic boom HA60	39.4 - 194.9 ft; Single cylinder telescoping system, automatic telescoping; Attachments for all equipment and extensions; 5 sheaves integrated in boom head for max. capacity of 142,200 lbs.
Boom luffing	Single luffing cylinder with automatic lowering brake valve.
Rotary drive	Single slewing gear unit with spring-loaded multi-disc brake.
H1	Hoist with spring-loaded multi-disc brake; Resolver (hoist rotation indicator); Incl. hoist monitoring.
Counterweight 42,500 lbs	5 pieces ①-⑤ (SPECIAL 4 pieces ①-③+⑦); Automatic rigging system.
Control system	Enabling 4 simultaneous working movements; Electric pilot controls via 2 two-axis joysticks.
Operator aids	IC-1, with integrated load moment indicator acc. EN13000; Colour display; Displaying of current operating conditions, load charts, fault indicator; Signal lights indicating LMI-load; Crane data logger.
IC-1 Plus	Smart crane control system for main boom operation enabling higher lifting capacities especially over outriggers. Enables safe use of the full capacity of the crane even in asymmetric outrigger configurations. Outriggers can be positioned independently. Capacity precalculation for +/- 30° slewing angle and radius area. In-cab lift simulation.
IC-1 Remote	IC-1 Remote, Tadano telematic system.
Working range limiter	Displaying and programmability of the work range limits by IC-1.
Cab 875	Type 2.9 ft; Tilt variable 16°; Fold-out front window; Extendable side, front pedestal; Handrails; Tinted safety glass; Pull-down sun visor; Radio; Seat heating; Heating engine-dependent; Aircondition.
Central lubrication	Automatic central lubrication system for the lubricating points at the superstructure.

Technical Description

Additional equipment

Carrier

Engine 340-3	Mercedes-Benz OM471; Diesel engine; Output 340 kW/1600 1/min (462 HP), torque 2300 Nm/1300 1/min; The engine complies with ECE R96 (equivalent to former European regulation EU Stage IIIA/Tier 3); Exhaust system complete stainless steel incl. spark arrester certificate.
Axles 8 x 6 x 8	All 4 axles steered, axles 1, 3 and 4 are driven and equipped with selectable transverse lock.
Wear-free auxiliary brake	Wear-free auxiliary eddy-current brake at 4th axle.

Superstructure

Engine 129-3	Mercedes-Benz OM934; Diesel engine; Output 129 kW/1800 1/min (175 HP), torque 750 Nm/1200-1600 1/min; The engine complies with ECE R96 (equivalent to former European regulation EU Stage IIIA/Tier 3); Exhaust system complete stainless steel incl. spark arrester certificate.
Telescopic boom HA50	39.4 - 164.4 ft; Single cylinder telescoping system, automatic telescoping; Attachments for all equipment and extensions; 5 sheaves integrated in boom head for max. capacity of 142,200 lbs.
Heavy lift attachment	2 additional sheaves; Dis-/connectable; For total 7 sheaves at boom head; Max. capacity 176,400 lbs.
2. hoist (H2)	Spring-loaded multi-disc brake; Resolver (hoist rotation indicator); Incl. quick couplings and transport rack; Self-rigging.
Additional counterweight 11,500 lbs	2 pieces (Ⓢ); For total 54,000 lbs, 7 pieces (SPECIAL 6 pieces).
Load supervision camera	Camera mounted on main boom head to supervise the hook block and load from above; Incl. boom head light on boom head.

Handling

Remote control	Control of superstructure movements via wireless remote control.
Moving out of crane cab	Control of carrier out of crane cab, enables machine moving when rigged, possible even under load.

Extensions

HAV 32.8 ft	Swing-away jib, manual offset 20° / 40°; 1-sheave head; Incl. transport storage.
HAV 62.3 ft	Double folding swing-away jib, manual offset 20° / 40°; 1-sheave head; Incl. transport storage; Includes HAV 32.8 ft.
HAV-VA 59.0 ft	Variable extension with swing-away jib, manual offset 20° / 40°; 1-sheave head; Incl. transport storage; Includes HAV 32.8 ft.
HAV-VA 88.6 ft	Variable extension with double folding swing-away jib, manual offset 20° / 40°; 1-sheave head; Incl. transport storage; Includes HAV 32.8 ft, HAV 62.3 ft and HAV-VA 59.0 ft.
HAV-HY	Hydraulic, stepless offset 0°-40°, instead of the manual offset; Available for HAV 32.8 ft, HAV 62.3 ft, HAV-VA 59.0 ft and HAV-VA 88.6 ft.
MS (runner)	4.9 ft; Fixed assembly jib, 2-sheaves for max. capacity 58,700 lbs; Incl. transport storage at boom head.

Hook Blocks

Hook block 220,500 lbs, 7-sheaves	Max. capacity 176,400 lbs; 2,320 lbs; Double hook, red with white signal stripes.
Hook block 176,400 lbs, 5-sheaves	Max. capacity 155,700 lbs; 2,360 lbs; Double hook, red with white signal stripes.
Vario hook block 110,200 lbs, 3-sheaves	Max. capacity 101,200 lbs; 660-1,320 lbs; Adjustable ballast and double hook, variable usage as 1- and 3-sheaves hook block, red with white signal stripes.
Hook block 110,200 lbs, 3-sheaves	Max. capacity 101,200 lbs; 1,320 lbs; Double hook, red with white signal stripes.
Hook block 44,100 lbs, 1-sheave	Max. capacity 44,100 lbs; 660 lbs; Single hook, red with white signal stripes.
Hook 17,600 lbs	Max. capacity 15,000 lbs; 375 lbs; Single hook, red.

Further additional equipment on request!

Weight data may deviate from posted values based on road / travel configuration, equipment configuration, and component weight tolerances.

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