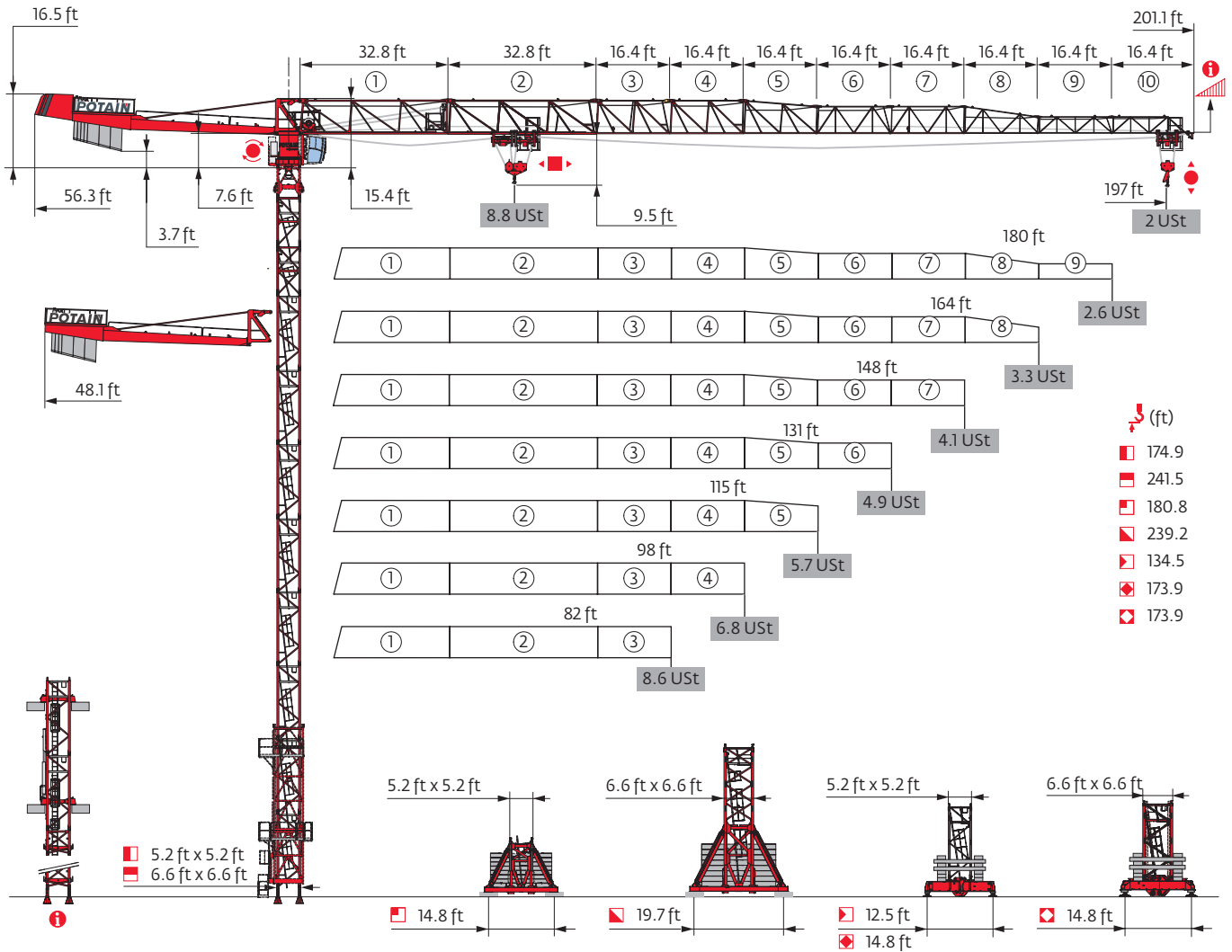


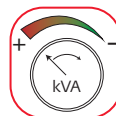
## MDT 189



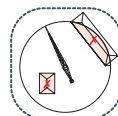
Potain Plus



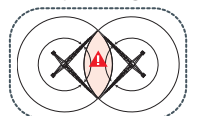
Power Control



Top Site



Top Tracing 3



Mast - Reactions

**5.2 ft City - P 41A**

Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	174.9	174.9	174.9	169.3	169.3	163.7	158.5	158.5
Height/P <sub>r</sub> (ft)	174.9	174.9	174.9	169.3	169.3	163.7	158.5	158.5
10.9 ft	1	1	1	2	2	0	1	1
16.4 ft	10	10	10	9	9	10	9	9
F2 (USt)	● 136 ■ 170	135 174	135 175	134 166	136 168	135 159	129 149	130 156
F3 (USt)	● 104 ■ 143	103 147	102 146	100 137	101 138	102 130	95 120	97 127

**5.2 ft City - ZC 4230 - ZD 4230**

Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	134.5	134.5	134.5	134.5	134.5	129.3	129.3	129.3
Height/P <sub>r</sub> (ft)	123.7	129.3	129.3	123.7	123.7	123.7	129.3	123.7
10.9 ft	0	0	0	0	0	1	1	1
16.4 ft	8	8	8	8	8	7	7	7
F1 (USt)	● 77 ■ 67	75 67	75 68	76 68	78 70	78 70	79 70	79 73

**5.2 ft City - ZD 4230**

Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	150.9	156.5	156.5	156.5	150.9	145.7	145.7	145.7
Height/P <sub>r</sub> (ft)	150.9	156.5	156.5	156.5	150.9	145.7	145.7	145.7
10.9 ft	0	2	2	2	0	1	1	1
16.4 ft	9	8	8	8	9	8	8	8
F1 (USt)	● 74 ■ 68	75 76	75 76	76 76	75 71	75 71	74 71	75 73

**5.2 ft - P 41A**

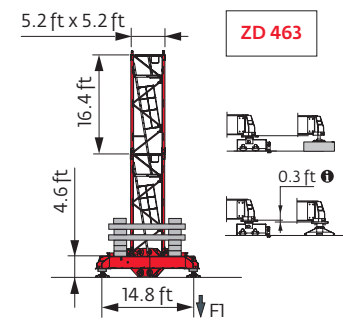
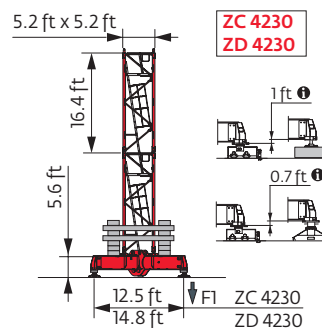
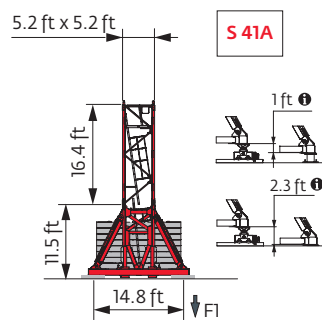
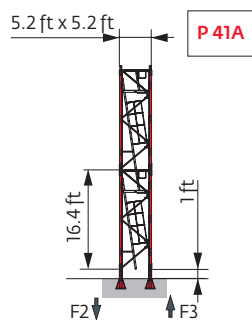
Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	170.3	170.3	170.3	170.3	165	159.4	153.9	153.9
Height/P <sub>r</sub> (ft)	170.3	170.3	170.3	170.3	165	159.4	153.9	153.9
6.6 ft	1	1	1	1	1	1	1	1
10.9 ft	0	0	0	0	1	2	0	0
16.4 ft	10	10	10	10	9	8	9	9
F2 (USt)	● 135 ■ 172	135 176	135 177	136 177	135 169	135 166	128 151	130 158
F3 (USt)	● 104 ■ 145	103 149	102 148	103 148	101 140	102 137	95 122	96 129

**5.2 ft - S 41A**


Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	180.8	180.8	180.8	175.5	170	164.4	164.4	164.4
Height/P <sub>r</sub> (ft)	180.8	180.8	180.8	175.5	170	164.4	164.4	164.4
6.6 ft	1	1	1	1	1	1	1	1
10.9 ft	0	0	0	1	2	0	0	0
16.4 ft	10	10	10	9	8	9	9	9
F1 (USt)	● 90 ■ 109	90 112	90 112	88 106	86 101	85 96	86 95	87 100


**5.2 ft - ZD 463**


Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	173.9	173.9	173.9	168.6	168.6	157.5	157.5	157.5
Height/P <sub>r</sub> (ft)	173.9	173.9	173.9	168.6	168.6	157.5	157.5	157.5
6.6 ft	1	1	1	1	1	1	1	1
10.9 ft	0	0	0	1	1	0	0	0
16.4 ft	10	10	10	9	9	9	9	9
F1 (USt)	● 85 ■ 101	85 104	85 104	84 98	86 99	83 89	82 88	82 92

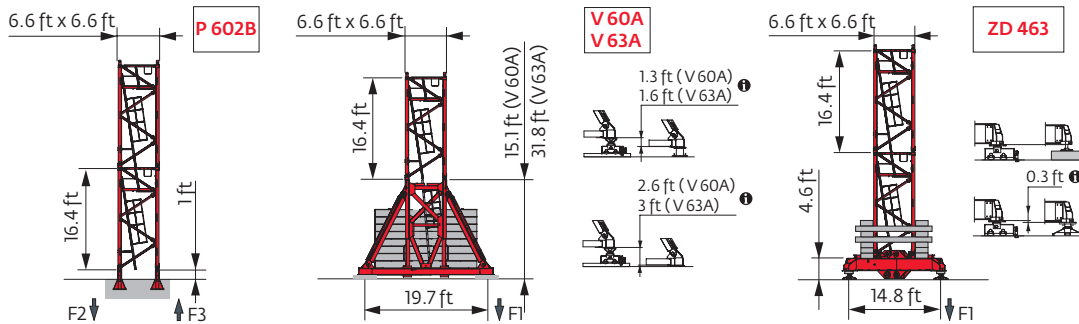


6.6 ft - P 602B								
Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	241.5	235.9	235.9	235.9	235.9	235.9	235.9	230.6
Height/P <sub>r</sub> (ft)	241.5	235.9	235.9	235.9	235.9	235.9	235.9	230.6
6.6 ft	1	1	1	1	1	1	1	1
10.9 ft	2	0	0	0	0	0	0	1
16.4 ft	13	14	14	14	14	14	14	13
F2 (Ust)	● 168	163	162	164	167	172	172	169
	■ 338	325	325	326	327	333	332	324
F3 (Ust)	● 126	121	120	121	122	128	126	124
	■ 300	287	287	287	287	292	291	284

6.6 ft - V 60A - 								
Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	211.9	211.9	211.9	211.9	211.9	211.9	211.9	211.9
Height/P <sub>r</sub> (ft)	211.9	211.9	211.9	211.9	211.9	211.9	211.9	211.9
6.6 ft	1	1	1	1	1	1	1	1
10.9 ft	1	1	1	1	1	1	1	1
16.4 ft	11	11	11	11	11	11	11	11
F1 (Ust)	● 97	97	97	98	99	101	101	101
	■ 138	140	140	140	141	144	143	147

6.6 ft - V 63A - 								
Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	239.2	233.9	233.9	239.2	239.2	233.9	233.9	233.9
Height/P <sub>r</sub> (ft)	239.2	233.9	233.9	239.2	239.2	233.9	233.9	233.9
6.6 ft	1	1	1	1	1	1	1	1
10.9 ft	2	0	0	2	2	0	0	0
16.4 ft	11	12	12	11	11	12	12	12
F1 (Ust)	● 119	117	117	120	121	121	121	121
	■ 181	174	174	183	184	178	177	180

6.6 ft - ZD 463 - 								
Height (ft)	82	98	115	131	148	164	180	197
Height (ft)	173.9	173.9	173.9	173.9	173.9	173.9	173.9	173.9
Height/P <sub>r</sub> (ft)	173.9	173.9	173.9	173.9	173.9	173.9	173.9	173.9
6.6 ft	1	1	1	1	1	1	1	1
10.9 ft	0	0	0	0	0	0	0	0
16.4 ft	10	10	10	10	10	10	10	10
F1 (Ust)	● 95	97	97	96	97	100	99	101
	■ 124	127	127	127	127	132	131	136



Note: When "ASCE" is noted in this data sheet it is referring to 115 mph Wind Zone, Exposure B, Design Wind Speed = 98 mph. See back cover for design wind speed calculations.

 Motorized accesses: adapted mast compositions, base ballast and reactions.

Anchorage



Base ballast

**Ust) / 5.2 ft City - ZC 4230 -**

AVAIL (ft)	82	98	115	131	148	164	180	197
134.5	99.2	93.7	93.7	93.7	99.2			
129.3	93.7	99.2	99.2	88.2	93.7	99.2	99.2	99.2
112.9	93.7	93.7	88.2	88.2	88.2	88.2	82.7	77.2
96.5	93.7	93.7	88.2	88.2	82.7	77.2	77.2	77.2
80.1	93.7	93.7	88.2	88.2	82.7	77.2	77.2	77.2
64	93.7	93.7	88.2	88.2	82.7	77.2	77.2	77.2

**Ust) / 5.2 ft - S 41A -**

AVAIL (ft)	82	98	115	131	148	164	180	197
180.8	119.1	119.1	119.1					
175.5	112.4	112.4	112.4	112.4				
170	105.8	105.8	105.8	105.8	105.8			
164.4	99.2	99.2	99.2	99.2	99.2	105.8	112.4	112.4
148	86	86	86	86	86	92.6	92.6	92.6
131.6	79.4	79.4	72.8	72.8	72.8	79.4	79.4	79.4
115.2	72.8	72.8	66.1	66.1	66.1	59.5	66.1	59.5
98.8	66.1	66.1	66.1	66.1	59.5	52.9	46.3	46.3
82.4	66.1	66.1	66.1	66.1	59.5	52.9	46.3	46.3
66	66.1	66.1	66.1	66.1	59.5	52.9	46.3	46.3

**Ust) / 6.6 ft - V 60A -**

AVAIL (ft)	82	98	115	131	148	164	180	197
211.9	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5
195.5	119.1	119.1	119.1	119.1	119.1	119.1	119.1	119.1
179.1	92.6	92.6	92.6	92.6	92.6	92.6	92.6	92.6
162.7	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1
146.3	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
129.9	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7
113.5	39.7	39.7	39.7	26.5	26.5	26.5	26.5	26.5
97.1	39.7	39.7	39.7	26.5	26.5	26.5	26.5	26.5
80.7	39.7	39.7	39.7	26.5	26.5	26.5	26.5	26.5
64.3	39.7	39.7	39.7	26.5	26.5	26.5	26.5	26.5

**Ust) / 6.6 ft - ZD 463 -**

AVAIL (ft)	82	98	115	131	148	164	180	197
173.9	126.8	132.3	132.3	126.8	126.8	132.3	132.3	137.8
157.5	93.7	93.7	93.7	93.7	93.7	99.2	99.2	99.2
141.1	77.2	77.2	71.7	77.2	77.2	82.7	82.7	82.7
124.7	66.1	60.6	60.6	60.6	60.6	66.1	66.1	66.1
108.3	60.6	60.6	60.6	60.6	55.1	49.6	49.6	49.6
91.9	60.6	60.6	60.6	60.6	55.1	49.6	38.6	38.6
75.5	60.6	60.6	60.6	60.6	55.1	49.6	38.6	38.6
59.1	60.6	60.6	60.6	60.6	55.1	49.6	38.6	38.6

**Ust) / 5.2 ft City - ZD 4230 -**

AVAIL (ft)	82	98	115	131	148	164	180	197
156.5		88.2	88.2	88.2				
150.9	88.2	82.7	82.7	82.7	88.2			
145.7	88.2	82.7	82.7	82.7	82.7	88.2	88.2	88.2
129.3	77.2	77.2	71.7	71.7	71.7	71.7	71.7	71.7
112.9	71.7	71.7	71.7	71.7	66.1	60.6	60.6	55.1
96.5	71.7	71.7	71.7	71.7	66.1	60.6	49.6	49.6
80.1	71.7	71.7	71.7	71.7	66.1	60.6	49.6	49.6
63.7	71.7	71.7	71.7	71.7	66.1	60.6	49.6	49.6

**Ust) / 5.2 ft - ZD 463 -**

AVAIL (ft)	82	98	115	131	148	164	180	197
173.9	104.7	104.7	104.7					
168.6	99.2	99.2	99.2	99.2	104.7			
157.5	93.7	88.2	88.2	88.2	93.7	99.2	99.2	99.2
141.1	77.2	77.2	77.2	77.2	77.2	82.7	82.7	82.7
124.7	71.7	71.7	66.1	66.1	66.1	66.1	66.1	66.1
108.3	66.1	66.1	60.6	60.6	60.6	55.1	55.1	49.6
91.9	66.1	66.1	60.6	60.6	55.1	49.6	38.6	38.6
75.5	66.1	66.1	60.6	60.6	55.1	49.6	38.6	38.6
59.1	66.1	66.1	60.6	60.6	55.1	49.6	38.6	38.6

**Ust) / 6.6 ft - V 63A -**

AVAIL (ft)	82	98	115	131	148	164	180	197
239.2	198.4		198.4	198.4				
233.9	198.4	198.4	198.4	198.4	185.2	198.4	198.4	198.4
217.5	158.7	158.7	158.7	158.7	158.7	158.7	158.7	158.7
201.1	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3
184.7	105.8	105.8	105.8	105.8	92.6	105.8	105.8	105.8
168.3	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4
151.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
135.5	39.7	39.7	39.7	39.7	39.7	39.7	52.9	39.7
119.1	39.7	39.7	26.5	26.5	26.5	39.7	39.7	39.7
102.7	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
86.3	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
69.9	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5

Load curves



(ft)			56	66	72	82	89	98	105	115	121	131	138	148	154	164	171	180	187	197	ft	
	8.8 USt	4.4 USt																				
197	9 → 63	106 - 113	8.8	8.4	7.5	6.4	5.7	4.9	4.5	4.3	4	3.6	3.4	3.1	2.85	2.6	2.4	2.2	2.05	1.9	USt	
	9 → 65	106 - 115	8.8	8.6	7.7	6.4	5.7	4.9	4.5	4.4	4.1	3.7	3.5	3.2	3	2.75	2.55	2.35	2.15	2	USt P+	
180	9 → 68	113 - 121	8.8	8.8	8.2	7	6.2	5.4	4.9	4.4	4.4	4	3.7	3.4	3.2	2.85	2.7	2.45		USt		
	9 → 68	113 - 122	8.8	8.8	8.2	7	6.2	5.4	4.9	4.4	4.4	4	3.8	3.5	3.3	3	2.8	2.6		USt P+		
164	9 → 66	120 - 129	8.8	8.8	8	7	6.4	5.6	5.2	4.7	4.4	4.3	4	3.7	3.5	3.2				USt		
	9 → 72	120 - 131	8.8	8.8	8.6	7.5	6.8	5.9	5.3	4.7	4.4	4.4	4.1	3.8	3.6	3.3				USt P+		
148	9 → 71	128 - 138	8.8	8.8	8.6	7.4	6.8	6	5.6	5	4.7	4.4	4.4	4						USt		
	9 → 77	129 - 139	8.8	8.8	8.8	8.1	7.4	6.4	5.8	5.2	4.8	4.4	4.4	4.1						USt P+		
131	9 → 71	129 - 131	8.8	8.8	8.6	7.5	6.9	6.1	5.6	5.1	4.7	4.4								USt		
	9 → 77		8.8	8.8	8.8	8.2	7.5	6.6	6.2	5.6	5.2	4.8								USt P+		
115	9 → 71		8.8	8.8	8.6	7.5	6.9	6.1	5.6	5.1										USt		
	9 → 76		8.8	8.8	8.8	8.1	7.5	6.6	6.1	5.5										USt P+		
98	9 → 71		8.8	8.8	8.6	7.5	6.9	6.1														
	9 → 76		8.8	8.8	8.8	8.1	7.5	6.6													USt P+	
82	9 → 75		8.8	8.8	8.8	8																
	9 → 79		8.8	8.8	8.8	8.5															USt P+	

$U_{St} = U_{St} - 0.54 U_{St} \text{ max.}$



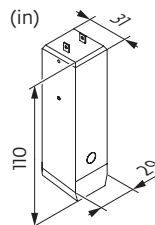
(ft)			56	66	72	82	89	98	105	115	121	131	138	148	154	164	171	180	187	197	ft	
	8.8 USt	4.4 USt																				
197	7 → 64	109 - 109	8.8	8.6	7.7	6.6	5.9	5.1	4.6	4.1	3.9	3.5	3.2	2.9	2.7	2.45	2.25	2.05	1.9	1.7	USt	
	7 → 66	110 - 110	8.8	8.8	7.8	6.6	5.9	5.1	4.7	4.2	3.9	3.6	3.3	3	2.85	2.55	2.4	2.15	2	1.85	USt P+	
180	7 → 69	116 - 116	8.8	8.8	8.3	7.1	6.4	5.6	5.1	4.5	4.2	3.8	3.5	3.2	3	2.7	2.5	2.3			USt	
	7 → 70	117 - 118	8.8	8.8	8.4	7.1	6.4	5.6	5.1	4.5	4.3	3.9	3.6	3.3	3.1	2.85	2.65	2.4			USt P+	
164	7 → 68	123 - 125	8.8	8.8	8.2	7.1	6.6	5.8	5.4	4.9	4.5	4.1	3.9	3.5	3.3	3					USt	
	7 → 73	124 - 126	8.8	8.8	8.8	7.7	7	6.1	5.5	4.9	4.5	4.2	3.9	3.6	3.4	3.2					USt P+	
148	7 → 72	132 - 135	8.8	8.8	8.8	7.6	7	6.2	5.8	5.2	4.9	4.4	4.2	3.9							USt	
	7 → 78	133 - 135	8.8	8.8	8.8	8.3	7.6	6.6	6	5.3	5	4.5	4.3	4							USt P+	
131	7 → 72		8.8	8.8	8.8	7.7	7	6.3	5.8	5.3	4.9	4.5									USt	
	7 → 78		8.8	8.8	8.8	8.3	7.7	6.8	6.3	5.7	5.4	4.9									USt P+	
115	7 → 72		8.8	8.8	8.8	7.7	7	6.3	5.8	5.3											USt	
	7 → 78		8.8	8.8	8.8	8.3	7.6	6.8	6.3	5.7											USt P+	
98	7 → 73		8.8	8.8	8.8	7.7	7.1	6.3													USt	
	7 → 78		8.8	8.8	8.8	8.3	7.6	6.8													USt P+	
82	7 → 76		8.8	8.8	8.8	8.1															USt	
	7 → 81		8.8	8.8	8.8	8.6															USt P+	

$U_{St} = U_{St} - 0.2 U_{St} \text{ max.}$

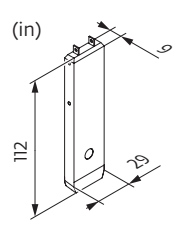
Jib weight & counter-jib ballast

ft	(lb) - 33 LVF (+/- 5%)					Σ (lb)
				7,937 lb	2,425 lb	
197 ft	19,687	19,290	20,040	3	4	33,510
180 ft	19,257	18,861	19,610	3	4	33,510
164 ft	18,750	18,354	19,103	3	3	31,085
148 ft	18,100	17,703	18,453	3	3	31,085
131 ft	17,350	16,954	17,703	3	2	28,660
115 ft	16,535	16,138	16,887	3	1	26,235
98 ft	15,734	15,338	16,087	3	0	23,810
82 ft	14,912	14,515	15,265	2	3	23,149

CAU - 7,937 lb



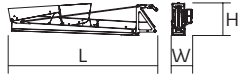
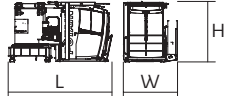

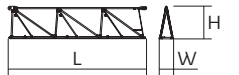
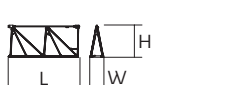
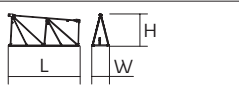
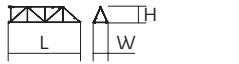
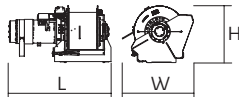
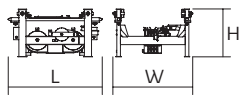
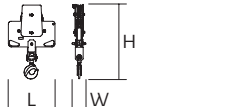
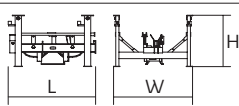
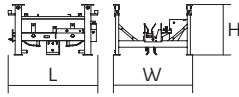
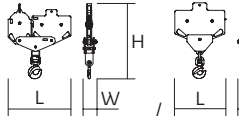
CAV - 2,425 lb


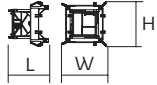

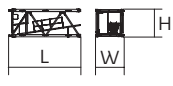

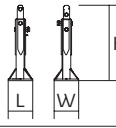
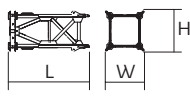

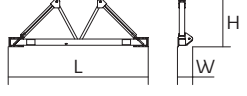
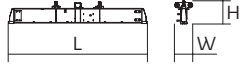
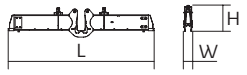

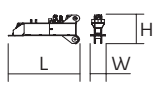


Dimensions and weight

Slewing crane part:  197 ft -  33 LVF



Slewing crane part		L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Counter-jib		38.9	3.9	8.2	11,023
Towerhead + cab	 Ultra View	14.2	7.4	8.1	13,338
Jib section	 ① 33 LVF 6 DVF	36	9.6	8.6	8,400
Jib section	 ②	33.6	3.4	7.8	3,217
Jib section	 ③ ④ ⑥ ⑦ ⑨	17.1 17 17 17 16.9	3.4 3.4 3.4 3.4 3.4	7.7 7.6 6.3 6.2 3.9	1,336 1,283 886 756 503
Jib section	 ⑤ ⑧	17 16.9	3.4 3.4	7.6 6.2	990 646
Jib section	 ⑩	16.7	3.4	3.8	417
Hoisting winch (+ rope)	 33 LVF 50 LVF 50 LVF GH	4.5 5 5.3	2.7 3.1 4.4	2.5 3 4.1	2,006 2,646 4,288
Trolley	 8.8 USt	5.2	4.4	2.9	617
Pulley block	 8.8 USt	3	0.8	4.6	617
Trolley	 8.8 USt	4.6	4.1	3.1	617
Trolley	 8.8 USt 4.4 USt	4.7 5	4.1 4.3	3.1 3.1	617 518
Pulley block	 8.8 USt 4.4 USt	4.1 2.6	0.9 0.6	5 4.5	551 287

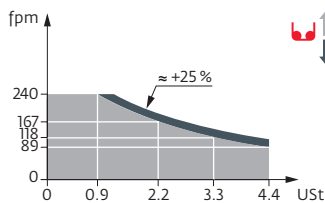
Crane tower		L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Telescopic cage T41 Telescopic cage T61		35.6 35.5	12.3 13.6	13.5 14.7	15,653 21,385
K40/K40-2 K60/K40-2		7.3 7.3	6.9 8.2	6.8 8.1	2,932 5,820
K 447E KM 447E KM 449E K 649B KM 649E		33.5 33.5 33.5 33.6 33.8	5.3 5.3 5.3 6.8 6.7	5.3 5.3 5.3 6.7 6.7	7,474 7,088 8,448 11,663 10,692
K 447A KMT 447A K 449A KMT 449A KR 649A KRMT 649A K 649A KMT 649A		17.1 17.1 17.1 17.1 17.2 17.2 17.2 17.2	5.5 5.5 5.5 5.5 6.9 6.9 6.8 6.8	5.3 5.3 5.3 5.3 6.8 6.8 6.7 6.7	4,079 3,847 4,916 4,696 7,165 6,724 6,184 5,666
K 447C K 649C KMT 649C KRMT 649C		11.3 11.7 11.7 11.7	5.5 6.8 6.8 6.9	5.3 6.7 6.7 6.8	2,998 4,376 4,542 5,401
Fixing angles		1.2 2.1	1.2 2.1	3.7 4.2	320 761
Basic mast unit		11.9 16.4 32.9	6.4 7.9 7.9	6.8 7.9 7.9	7,132 10,494 16,887
Struts		10.4 14.8 14.8	0.9 1 1.1	0.8 1 1.1	816 1,036 1,235
Half-bearer		16.7 22 22	2 2.3 2.3	5.8 7.6 7.6	2,315 4,057 4,101
Cross girder		18.5 21.8	2.7 2.7	3.4 3.4	3,505 4,035
Cross girder		18.5 21.8	1.5 1.5	4.4 4.4	4,178 4,707
Cross girder		25.1	3.8	4.5	7,904
1/2 Cross girder		11.2	2.3	4.4	3,649

Mechanisms

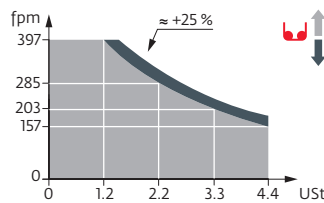
480 V - 60 Hz											hp	kW	
	33 LVF 20 Optima	fpm	89	118	167	240	46	59	89	121	33	22	951 ft
		USt	4.4	3.3	2.2	0.9	8.8	6.6	4.4	2			
	50 LVF 20 Optima	fpm	157	203	285	397	82	108	151	200	50	37	1,191 ft
		USt	4.4	3.3	2.2	1.2	8.8	6.6	4.4	2.8			
50 LVF 20 GH Optima	fpm	161	210	289	371	82	105	151	187	50	37	2,080 ft	
	USt	4.4	3.3	2.2	1.2	8.8	6.6	4.4	2.9				
	6 DVF 4 Optima	fpm	0 → 262 (8.8 USt) 0 → 328 (2.2 USt)						5.5	4			
	RVF 152 Optima+	rpm	0 → 0.8						2 x 5.5	2 x 4			

480 V (+6% -10%) 60 Hz	33 LVF: 41 → 28 kVA 50 LVF / 50 LVF GH: 54 → 34 kVA

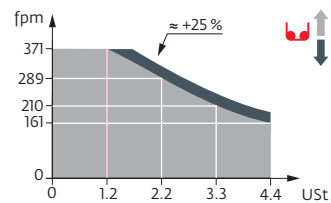
33 LVF 20 Optima



50 LVF 20 Optima



50 LVF 20 GH Optima



These mast combinations meet the EN 14439 and ASME B30.3-2016 specifications for "out of service" wind conditions, provided the illustrated wind speed matches required design wind speed for the location of the tower crane. The "out of service" design wind speed was determined in accordance with ASCE 7-10, Figure 26.5-1A. The wind velocity, used for this configuration was 98 mph (158 kph), which represents a nominal design 3-second wind gust at 33 ft (10 m) above ground for Exposure B category. A factor of 0.85 was applied to the 700-year ultimate design wind speed of 115 mph (185 kph), per ASCE 37-02, with the assumption that this crane is considered a temporary structure used during a construction period of 2 years or less.

- Jib elevation
- Total ballast weight
- Travelling
- Standard equipment
- Jib weight
- Required power
- Options
- Lorry 44 ft
- Power Control Function: winch speeds adapted to the available power
- Potain Plus function: Plus load curves
- Container High Cube 40 ft, and/or Flat Rack 20 ft
- Consult us
- Hook heights with Plus load curves
- Hoisting
- Reactions in service
- Trolleying
- Reactions out of service
- Slewing

This commercial document is not legally binding. For any technical information, please refer to the corresponding instructions.

