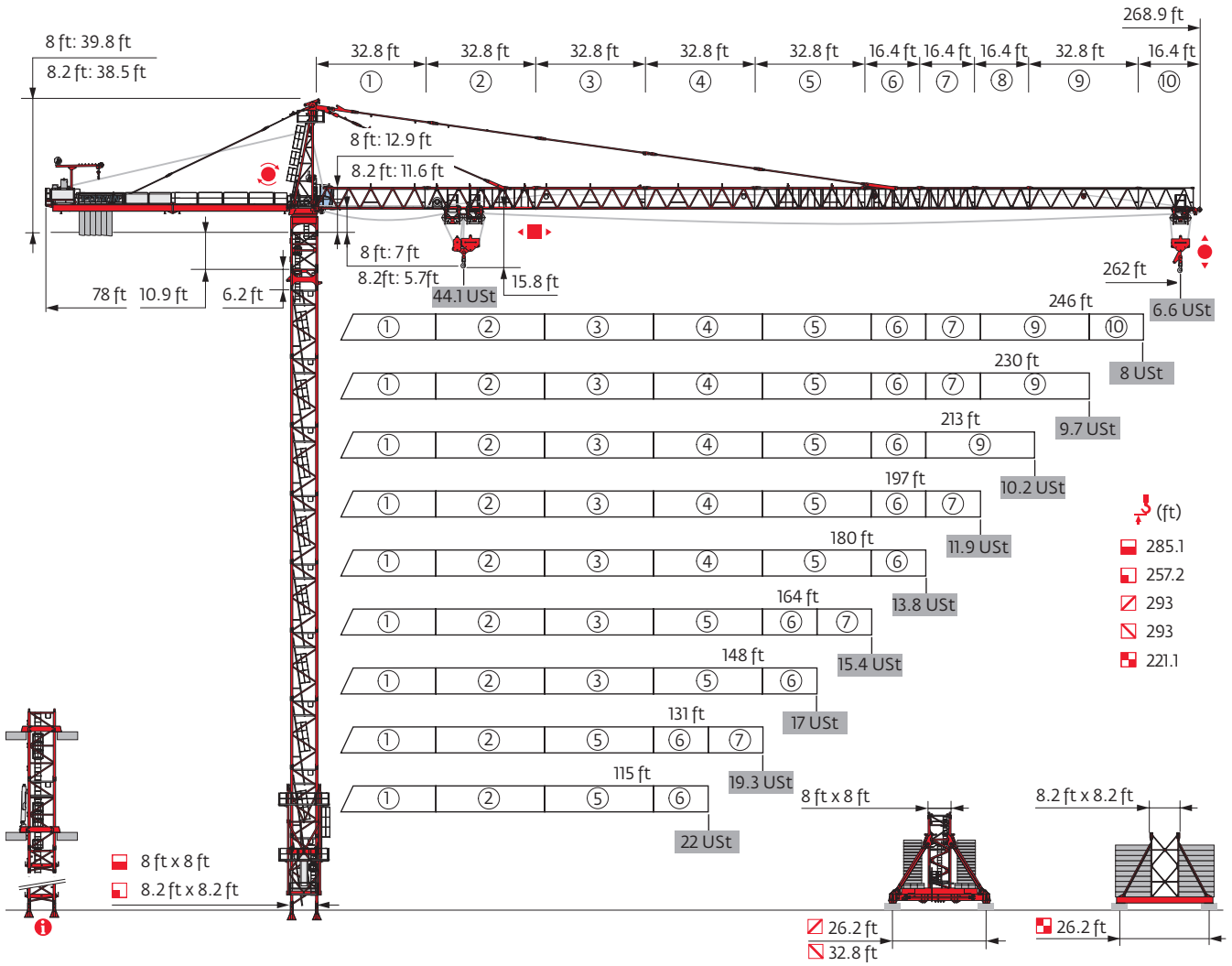
POTAIN®
by Manitowoc

MD 689 M40



Potain Plus

Power Control

Top Site

Top Tracing 3

TCL

ASCE 7-10

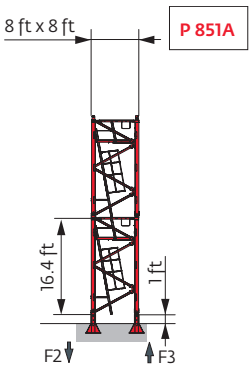
Values have been rounded.

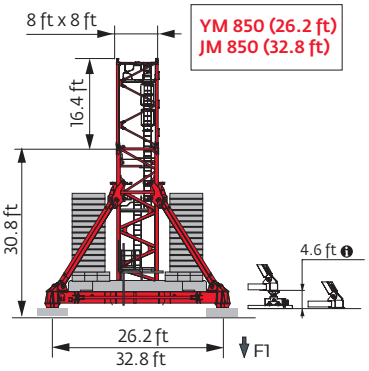
Mast - Reactions

8 ft - P 851A											
(ft)		115	131	148	164	180	197	213	230	246	262
(ft)		274.3	279.5	285.1	279.5	274.3	274.3	274.3	257.9	274.3	268.7
/P+ (ft)		268.7	268.7	263.1	268.7	257.9	257.9	257.9	257.9	268.7	257.9
	10.9 ft	1	1	1	1	1	1	1	1	1	1
	6.2 ft	1	1	1	1	1	1	1	1	1	1
	10.9 ft	0	2	1	2	0	0	0	0	0	1
	16.4 ft	16	15	16	15	16	16	16	15	16	15
F2 (USt)	●	376	378	381	375	376	377	372	374	373	380
	■	515	543	562	541	518	526	520	463	530	545
F3 (USt)	●	259	256	257	249	247	246	240	242	237	243
	■	420	443	460	437	411	417	410	353	415	430

8 ft - YM 850 -											
(ft)		115	131	148	164	180	197	213	230	246	262
(ft)		282.2	287.7	293	293	282.2	282.2	287.7	265.8	293	276.6
/P+ (ft)		276.6	276.6	271.3	271.3	265.8	265.8	265.8	265.8	282.2	265.8
	10.9 ft	1	1	1	1	1	1	1	1	1	1
	6.2 ft	1	1	1	1	1	1	1	1	1	1
	10.9 ft	1	0	2	2	1	1	0	1	2	2
	16.4 ft	14	15	14	14	14	14	15	13	14	13
F1 (USt)	●	211	213	222	219	209	210	214	196	227	216
	■	263	270	286	283	260	264	269	230	289	274

JM 850 -											
(ft)		115	131	148	164	180	197	213	230	246	262
(ft)		282.2	287.7	293	293	282.2	282.2	287.7	265.8	293	276.6
/P+ (ft)		276.6	276.6	271.3	271.3	265.8	265.8	265.8	265.8	282.2	265.8
	10.9 ft	1	1	1	1	1	1	1	1	1	1
	6.2 ft	1	1	1	1	1	1	1	1	1	1
	10.9 ft	1	0	2	2	1	1	0	1	2	2
	16.4 ft	14	15	14	14	14	14	15	13	14	13
F1 (USt)	●	170	172	177	178	168	172	173	162	185	175
	■	209	215	227	225	207	210	215	183	230	218





8.2 ft - P 80A

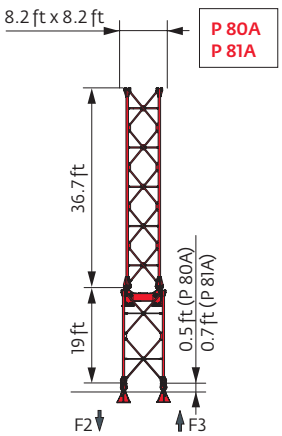
(ft)	115	131	148	164	180	197	213	230	246	262
(ft)	200.5	200.5	219.5	219.5	200.5	200.5	200.5	181.4	200.5	181.4
/P+ (ft)	-	-	-	-	-	-	181.4	-	200.5	-
36.7 ft	1	1	1	1	1	1	1	1	1	1
19 ft	9	9	10	10	9	9	9	8	9	8
F2 (USt) ●	254	249	259	258	255	255	251	256	258	251
F2 (USt) ■	158	163	180	178	170	166	173	171	170	152
F3 (USt) ●	161	154	159	156	151	149	144	148	146	141
F3 (USt) ■	87	90	103	97	88	82	87	85	80	64

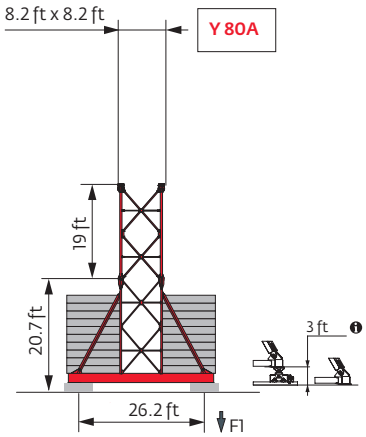
8.2 ft - P 81A

(ft)	115	131	148	164	180	197	213	230	246	262
(ft)	257.2	257.2	257.2	257.2	257.2	257.2	257.2	238.5	238.5	238.5
/P+ (ft)	-	-	-	-	-	-	257.2	-	238.5	-
36.7 ft	1	1	1	1	1	1	1	1	1	1
19 ft	12	12	12	12	12	12	12	11	11	11
F2 (USt) ●	292	287	284	284	293	294	304	292	283	287
F2 (USt) ■	263	261	261	260	267	274	272	233	235	265
F3 (USt) ●	189	181	178	174	178	176	184	174	163	167
F3 (USt) ■	182	177	177	172	174	179	175	136	138	166

8.2 ft - Y 80A -

(ft)	115	131	148	164	180	197	213	230	246	262
(ft)	202.1	221.1	221.1	221.1	202.1	202.1	221.1	202.1	183.1	164
/P+ (ft)	-	-	-	-	-	-	202.1	-	183.1	-
36.7 ft	1	1	1	1	1	1	1	1	1	1
19 ft	8	9	9	9	8	8	9	8	7	6
F1 (USt) ●	141	145	142	146	146	146	150	152	145	142
F1 (USt) ■	103	107	104	111	111	110	114	114	112	103





Motorized accesses of CabLIFT and TCL types: Adapted mast compositions, base ballast and reactions.

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.

Anchorages

Base ballast

(USt) / 8 ft - YM 850 -

(ft)	115	131	148	164	180	197	213	230	246	262
293			224.9	211.6					211.6	
287.7		198.4	198.4	185.2			185.2		185.2	
282.2	198.4	185.2	185.2	172	172	172	172		172	
276.6	185.2	172	172	158.7	158.7	158.7	145.5		158.7	185.2
271.3	158.7	158.7	158.7	145.5	132.3	132.3	132.3		132.3	158.7
265.8	145.5	145.5	145.5	132.3	132.3	132.3	119.1	119.1	119.1	145.5
249.3	119.1	119.1	105.8	105.8	105.8	105.8	105.8	105.8	92.6	105.8
232.9	105.8	92.6	92.6	92.6	92.6	79.4	79.4	79.4	79.4	92.6
216.5	92.6	79.4	79.4	79.4	79.4	66.1	66.1	79.4	79.4	79.4
200.1	79.4	79.4	79.4	66.1	66.1	66.1	66.1	79.4	79.4	79.4
183.7	66.1	66.1	66.1	66.1	66.1	66.1	66.1	79.4	79.4	79.4
167.3	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	79.4	79.4
150.9	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	79.4
134.5	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	79.4
118.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1
101.7	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1
85.3	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1
68.9	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1

(USt) / 8 ft - JM 850 -

(ft)	115	131	148	164	180	197	213	230	246	262
293			119.1	119.1					119.1	
287.7		105.8	105.8	105.8			92.6		92.6	
282.2	105.8	105.8	92.6	92.6	79.4	92.6	79.4		79.4	
276.6	92.6	92.6	92.6	79.4	66.1	79.4	66.1		66.1	92.6
271.3	79.4	79.4	79.4	66.1	52.9	52.9	52.9		52.9	79.4
265.8	79.4	66.1	66.1	52.9	52.9	52.9	52.9	52.9	52.9	66.1
249.3	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
232.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
216.5	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
200.1	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
183.7	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
167.3	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
150.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
134.5	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
118.1	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
101.7	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
85.3	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
68.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9

(USt) / 8.2 ft - Y 80A -

(ft)	115	131	148	164	180	197	213	230	246	262
221.1		105.8	92.6	105.8			105.8			
202.1	105.8	92.6	92.6	92.6	105.8	105.8	105.8	105.8		
183.1	105.8	92.6	92.6	92.6	105.8	105.8	105.8	105.8	105.8	
164	92.6	79.4	92.6	92.6	92.6	105.8	105.8	105.8	105.8	105.8
145.3	92.6	79.4	79.4	92.6	92.6	92.6	92.6	105.8	105.8	105.8
126.3	92.6	79.4	79.4	79.4	92.6	92.6	92.6	92.6	92.6	105.8
107.3	92.6	79.4	79.4	79.4	92.6	92.6	92.6	92.6	92.6	92.6
88.3	92.6	79.4	79.4	79.4	79.4	92.6	92.6	92.6	92.6	92.6

Load curves

(ft)	39	49	72	82	98	115	121	131	148	154	164	180	187	197	213	220	230	236	246	253	262	ft
	44.1 USt	22 USt																				
262	12.8 → 50.8	89 - 97	44.1	44.1	28.7	24.5	21.7	18.1	16.9	15.4	13.3	12.6	11.6	10.3	9.8	9.2	8.2	7.8	7.4	7.1	6.6	6.3	6	USt
	12.8 → 52.6	93.7 - 102.4	44.1	44.1	30.3	26	22	19.3	18.1	16.5	14.4	13.7	12.7	11.3	10.8	10.1	9.1	8.7	8.2	7.8	7.3	7	6.6	USt P+
246	12.8 → 53.2	87.8 - 93.8	44.1	44.1	29.1	24.3	20.7	16.8	15.5	13.9	12.5	12	11.3	10.4	10	9.6	8.7	8.4	7.9	7.7	7.3	USt		
	12.8 → 56.6	93.5 - 100.6	44.1	44.1	32	26.7	22	18.3	16.8	15.3	13.6	13.1	12.5	11.4	11	10.5	9.6	9.2	8.7	8.4	8	USt P+		
230	12.8 → 60	97.8 - 102	44.1	44.1	34.1	28.4	22	19.2	18.1	16.5	14.3	13.6	12.7	11.7	11.3	10.7	9.8	9.4	8.8	USt				
	12.8 → 60.3	104 - 106.5	44.1	44.1	36.3	31.3	24	19.8	18.4	16.7	15	14.5	13.9	12.8	12.4	11.8	10.7	10.3	9.7	USt P+				
213	12.8 → 57.3	100.2 - 107.4	44.1	44.1	33.3	28.4	22.6	20.4	19	17.3	15	14.2	13.1	11.6	11.1	10.4	9.3	USt						
	12.8 → 60.4	107.8 - 112.8	44.1	44.1	36.5	31.3	24.8	21.5	20	18.3	16.4	15.6	14.4	12.8	12.2	11.4	10.2	USt P+						
197	12.8 → 57.1	101.5 - 109	44.1	44.1	33.4	28.7	22.9	20.8	19.4	17.7	15.4	14.6	13.6	12.1	11.5	10.8	USt							
	12.8 → 59.5	109.4 - 115.1	44.1	44.1	35.8	31	25	22	20.5	18.7	16.7	16.1	14.9	13.3	12.7	11.9	USt P+							
180	12.8 → 58.5	105.3 - 113.3	44.1	44.1	34.6	29.8	23.9	21.7	20.4	18.6	16.2	15.4	14.3	12.8	USt									
	12.8 → 60.8	112 - 119.1	44.1	44.1	36.5	31.6	25.6	22	21.6	19.8	17.4	16.5	15.4	13.8	USt P+									
164	12.8 → 57.7	105 - 113.1	44.1	44.1	34.2	29.5	23.8	21.7	20.4	18.7	16.3	15.5	14.4	USt										
	12.8 → 60.7	111.9 - 118.9	44.1	44.1	36.4	31.5	25.6	22	21.6	19.8	17.3	16.5	15.4	USt P+										
148	12.8 → 57	103.8 - 111.8	44.1	44.1	33.7	29.1	23.5	21.4	20.1	18.4	16.1	USt												
	12.8 → 59.8	110.2 - 117.1	44.1	44.1	35.8	31	25.1	22	21.2	19.4	17	USt P+												
131	12.8 → 57.6	104.8 - 113	44.1	44.1	34.1	29.5	23.8	21.6	20.3	18.6	USt													
	12.8 → 59.6	109.8 - 116.6	44.1	44.1	35.6	30.8	25	22	21.1	19.3	USt P+													
115	12.8 → 58.1	106.5 - 114.8	44.1	44.1	34.6	29.9	24.2	22	USt															
	12.8 → 59	108.5 - 114.8	44.1	44.1	35.2	30.5	24.7	22	USt P+															

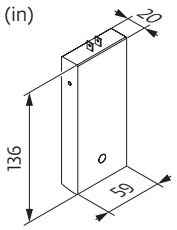
= - 2.34 USt max.

Jib weight & counter-jib ballast

	(lb) (+/- 5%)			
		13,228 lb	8,818 lb	(lb)
262 ft	63,504	6	0	79,366
246 ft	61,189	6	0	79,366
230 ft	59,976	5	1	74,957
213 ft	57,496	5	0	66,139
197 ft	56,901	4	1	61,729
180 ft	54,421	3	2	57,320
164 ft	50,794	2	2	44,092
148 ft	48,325	2	1	35,274
131 ft	44,158	1	2	30,865
115 ft	41,689	1	1	22,046

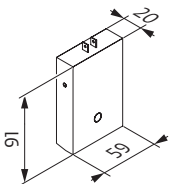
CBC - 13,228 lb

(in)



CBD - 8,818 lb

(in)

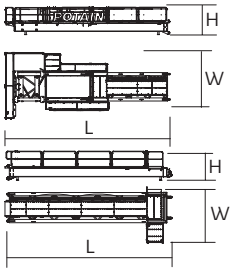
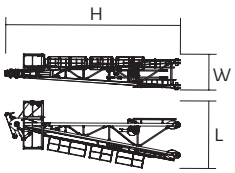
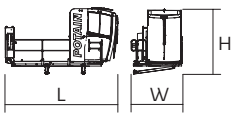
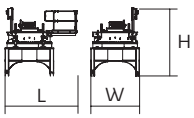
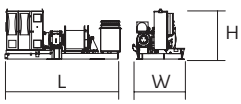
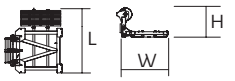
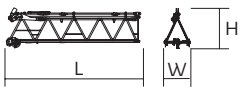
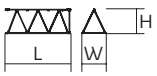
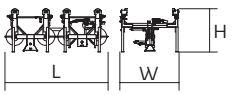
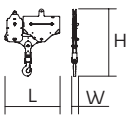


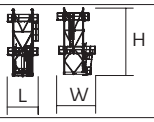
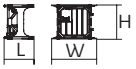
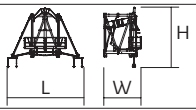
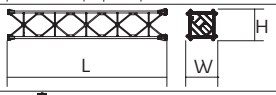
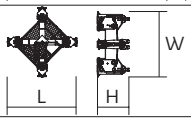
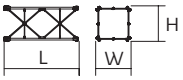
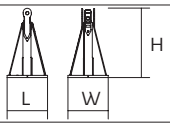
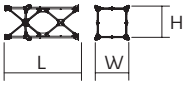
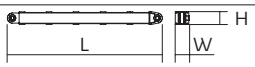
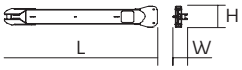
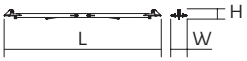
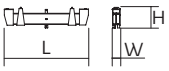
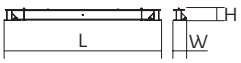
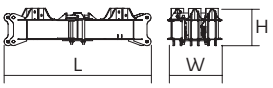
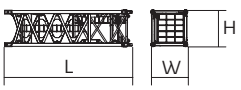
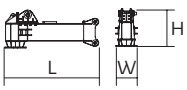
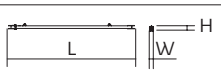
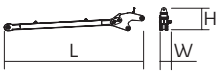
Dimensions and weight

Slewing crane part : 262 ft - - 320 LVF

x 14

x 11

Slewing crane part			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Counter-jib			38.4 36.2	15.4 12.3	6.4 6.8	14,551 10,858
Cathead			11.6	6.5	32.3	18,221
Cab		Ultra View	16.4	8.2	9.1	4,134
Towerhead		8 ft 8.2 ft	12.1 12.9	9.5 10	12.7 11.5	25,485 25,353
Hoisting winch (+ rope)		320 LVF	16.7	7.5	7.3	21,793
Intermediate winch frame			10.7	9.5	5.4	12,485
Jib section		① ②15 DVF ③ ④ ⑤ ⑨	34 33.9 33.6 33.6 33.6 33.5	6.2 6.2 6.2 6.2 6.2 6.2	8.3 7.7 7.9 7.6 7.6 6.6	11,241 11,942 6,634 6,105 6,279 3,075
Jib section		⑥ ⑦ ⑧ ⑩	17.5 17.2 17.2 17	6.2 6.2 6.2 6.2	7.4 6.7 6.7 6.5	4,222 2,476 2,314 1,215
Trolley		44.1 USt	13	7.2	5.5	3,131
Pulley block		44.1 USt	8.1	1.2	9.4	4,050

Crane tower			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Telescopic cage		⍁8 ft	15.2	19	33.6	29,200
K 850/K 850 Telescoping mast		⍁8 ft	7.3	10.7	8.2	8,069
Telescopic cage		⍁8.2 ft	24.3	12	19.1	13,669
Slider		⍁8.2 ft	36.4	6.9	6.9	15,653
Slider base		⍁8.2 ft	7.7	5.2	7.7	13,140
KM 850.10B KMT 850.10A KMT 850.10C		⍁8 ft	33.9 17.5 12	8.1 8.3 8.3	8.3 8.2 8.2	22,201 12,015 9,326
R 86 R 87 R 87B R 88B		⍁8.2 ft	21 21 21 21	9.5 9.5 9.5 9.7	9.5 9.5 9.5 9.7	8,422 9,392 9,976 12,787
Fixing angles		P 851A P 80A P 81A ⓘ	3 2.6 -	3 2.6 -	4.9 4 -	1,841 4,343 -
Basic mast unit		Y 80A	19.7	9.8	9.8	16,314
Struts		Y 80A	18	1.4	1.2	1,764
1/2 Side member		Y 80A	18.4	3.8	2	2,205
Side member		Y 80A	38.9	3.8	2	4,630
Ballast support		Y 80A	15.3	1	2.2	595
Chassis beam		Y 80A	28.2	2.3	3.8	4,409
Central cross (transport position)		YM 850 JM 850	17.1	5.6	4.9	14,771
Basic mast unit		YM 850 JM 850	28.7	8.2	8.2	32,187
Chassis girder		YM 850 JM 850	12.5 17.1	3 3	5.1 5.1	6,173 7,055
Chassis ties		YM 850 JM 850	23.6	0.8	1.1	551
Struts		YM 850 JM 850	24.6 26.9	2.5 2.5	4.3 4.3	4,630 5,071

Mechanisms

480 V - 60 Hz													hp	kW	
	320 LVF 100 Optima	fpm	197	256	367	505	531	98	128	184	253	266	320	240	1,745 ft
		USt	22	16.5	11	7.5	6.4	44.1	33.1	22	15.7	13.4			
	15 DVF 16 Optima	fpm	0 → 108 (44.1 USt) 0 → 164 (22 USt) 0 → 220 (11 USt) 0 → 328 (2.8 USt)										15	11	
	RVF 173 Optima+	rpm	0 → 0.8										3 x 10	3 x 7.5	

IEC 60204-32	kVA	
480 V (+6% -10%) 60 Hz	297 → 169 kVA	

These mast combinations meet the EN 14439 and ASME B30.3-2012 specifications for "out of service" wind conditions, provided the illustrated wind speed matches required design wind 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-A. 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 50-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.

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