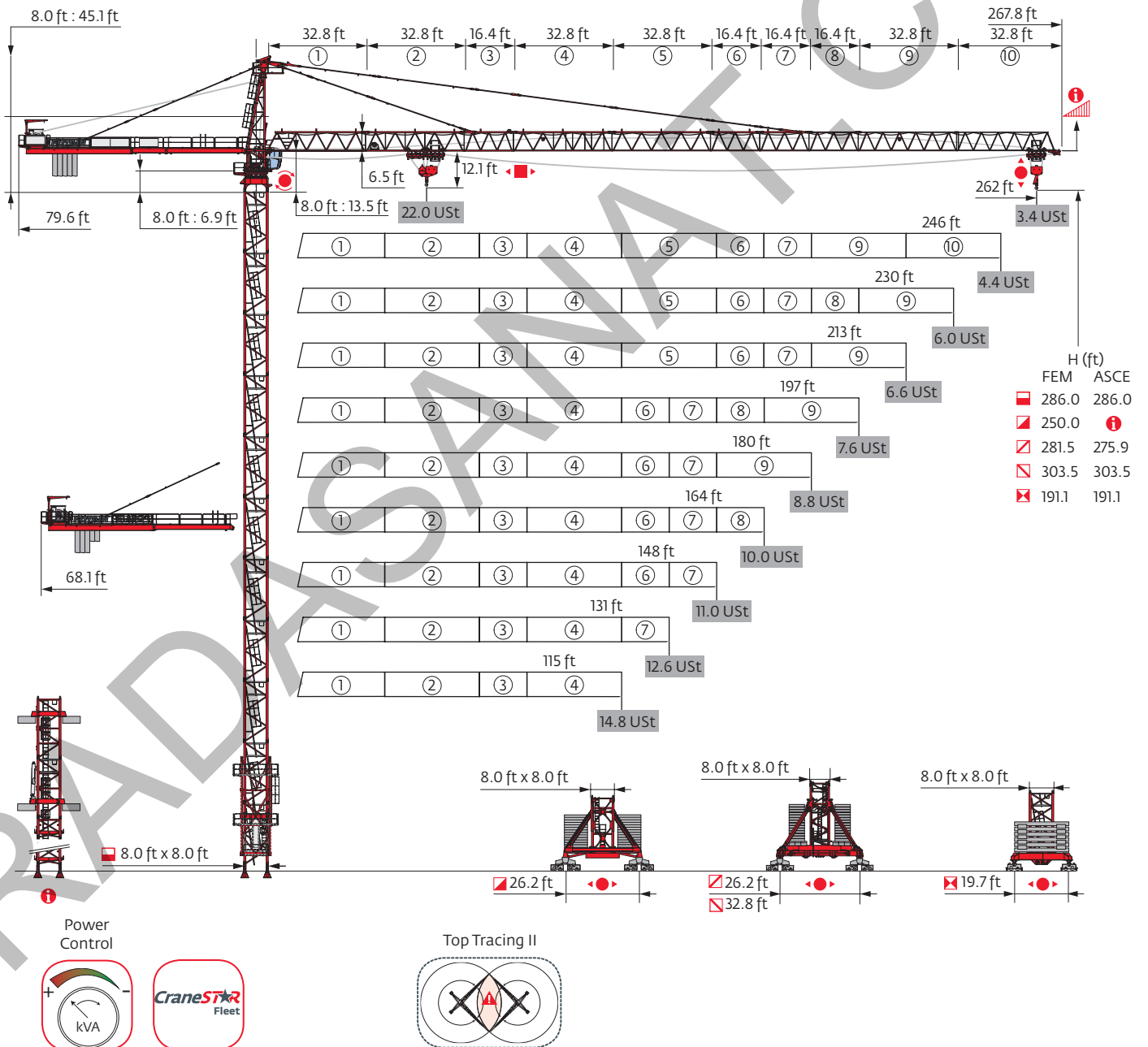


# MD 485 B M20

## Data Sheet

FEM 1.001-A3  
ASCE 7-10

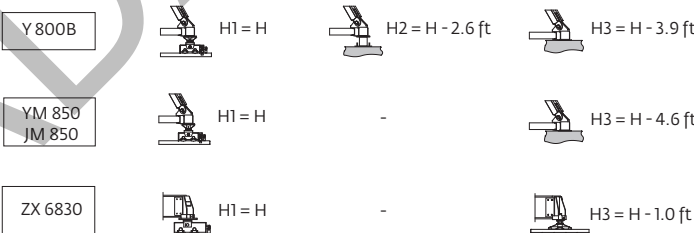
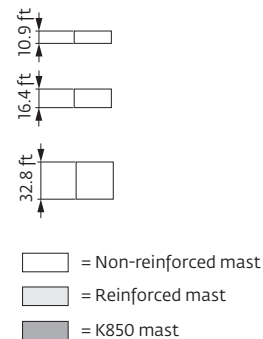
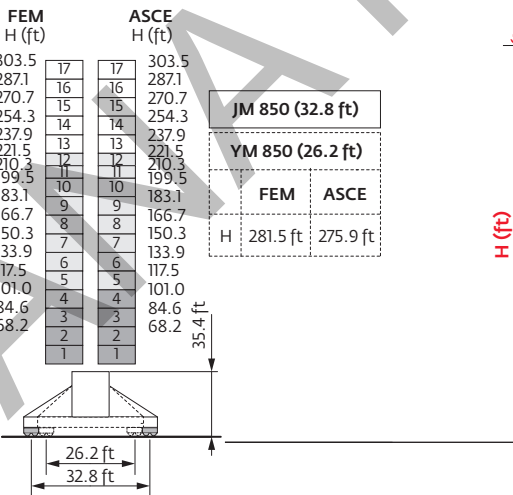
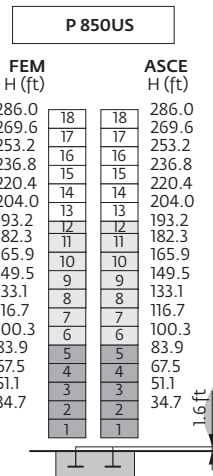
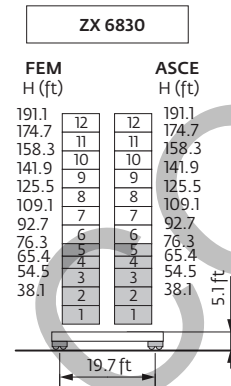
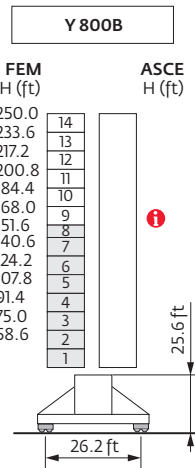
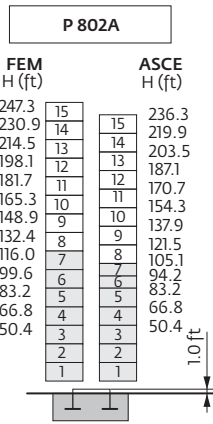


Values have been rounded

# Mast

8.0 ft

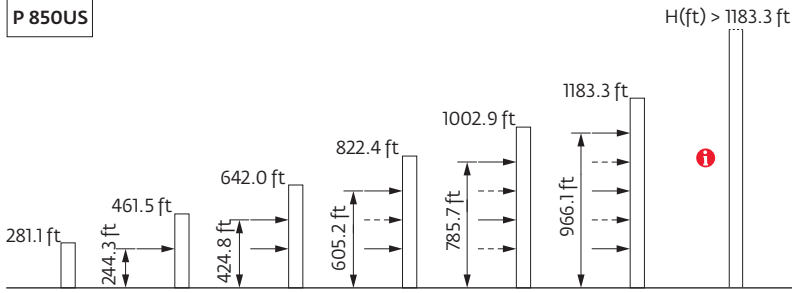
115 ft → 262 ft



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.

# Anchorage (Consult us for ASCE 7-10 values)

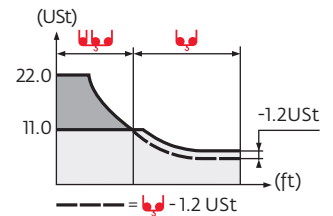
P 850US



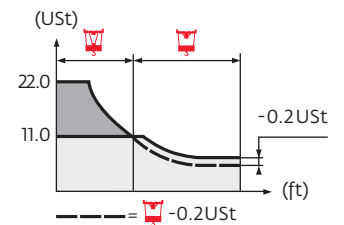
## Load charts



262 ft	12	▶	57	66	72	82	89	98	99	108	115	121	131	148	164	180	197	213	230	246	262	ft
▲▼▲▼			22.0	18.5	16.4	14	12.7	11.1	11.0	11.0	10.3	9.6	8.7	7.5	6.6	5.8	5.2	4.6	4.2	3.7	3.4	USt
246 ft	12	▶	62	66	72	82	89	98	105	109	119	121	131	148	164	180	197	213	230	246	ft	
▲▼▲▼			22.0	20.6	18.4	15.8	14.3	12.6	11.6	11.0	11.0	10.8	9.8	8.5	7.5	6.6	6.0	5.4	4.9	4.4	USt	
230 ft	12	▶	72	72	82	89	98	105	115	121	127	139	148	164	180	197	213	230	ft			
▲▼▲▼			22.0	21.9	18.8	17.2	15.2	14	12.6	11.7	11.0	11.0	10.3	9.0	8.2	7.3	6.6	6.0	USt			
213 ft	12	▶	72	82	89	98	105	115	121	127	139	148	164	180	197	213	ft					
▲▼▲▼			22.0	19.0	17.3	15.2	14.1	12.6	11.7	11.0	11.0	10.4	9.1	8.2	7.3	6.6	USt					
197 ft	12	▶	74	82	89	98	105	115	121	132	144	148	164	180	197	ft						
▲▼▲▼			22.0	19.6	18.0	15.9	14.7	13.1	12.2	11.0	11.0	10.7	9.5	8.5	7.6	USt						
180 ft	12	▶	77	82	89	98	105	115	121	131	136	149	164	180	ft							
▲▼▲▼			22.0	20.5	18.7	16.5	15.2	13.7	12.8	11.6	11.0	11.0	9.9	8.8	USt							
164 ft	12	▶	78	82	89	98	105	115	121	131	138	151	164	ft								
▲▼▲▼			22.0	20.8	19.0	16.8	15.5	13.9	13.0	11.8	11.0	11.0	10.0	USt								
148 ft	12	▶	79	82	89	98	105	115	121	131	138	148	ft									
▲▼▲▼			22.0	21.1	19.2	17.0	15.7	14.1	13.1	11.9	11.2	10.3	USt									
													11.0	USt								
131 ft	12	▶	79	82	89	98	105	115	121	131	ft											
▲▼▲▼			22.0	21.2	19.4	17.1	15.8	14.2	13.2	12.0	USt											
115 ft	12	▶	80	82	89	98	105	115	ft													
▲▼▲▼			22.0	21.3	19.5	17.2	15.9	14.2	USt													



262 ft	8.2	▶	58	66	72	82	89	98	103	105	115	121	131	148	164	180	197	213	230	246	262	ft
▲▼▲▼			22.0	19.1	17.1	14.7	13.3	11.7	11.0	11.0	9.9	9.3	8.4	7.2	6.2	5.4	4.7	4.3	3.7	3.4	3.0	USt
246 ft	8.2	▶	64	72	82	89	98	105	114	116	121	131	148	164	180	197	213	230	246	ft		
▲▼▲▼			22.0	19.0	16.3	15.0	13.1	13.7	11.0	11.0	10.4	9.5	8.2	7.2	6.3	5.5	5.0	4.4	4.1	USt		
230 ft	8.2	▶	73	82	89	98	105	115	121	133	135	148	164	180	197	213	230	ft				
▲▼▲▼			22.0	19.5	17.9	15.8	14.7	13.1	12.3	11.0	11.0	9.9	8.7	7.7	6.9	6.2	5.6	USt				
213 ft	8.2	▶	74	82	89	98	105	115	121	133	135	148	164	180	197	213	ft					
▲▼▲▼			22.0	19.5	17.9	15.8	14.7	13.1	12.3	11.0	11.0	9.9	8.7	7.7	6.9	6.3	USt					
197 ft	8.2	▶	76	82	89	98	105	115	121	131	137	140	164	180	197	ft						
▲▼▲▼			22.0	20.3	18.5	16.4	15.2	13.7	12.8	11.7	11.0	11.0	9.0	8.0	7.3	USt						
180 ft	8.2	▶	79	82	89	98	105	115	121	131	142	145	164	180	ft							
▲▼▲▼			22.0	21.1	19.3	17.1	15.9	14.3	13.3	12.1	11.0	11.0	9.5	8.5	USt							
164 ft	8.2	▶	80	82	89	98	105	115	121	131	144	147	164	ft								
▲▼▲▼			22.0	21.4	19.6	17.4	16.1	14.6	13.6	12.3	11.0	11.0	9.7	USt								
148 ft	8.2	▶	81	82	89	98	105	115	121	131	145	148	ft									
▲▼▲▼			22.0	21.6	19.8	17.5	16.3	14.7	13.8	12.5	11.0	11.0	USt									
131 ft	8.2	▶	81	82	89	98	105	115	121	131	ft											
▲▼▲▼			22.0	21.8	20.0	17.6	16.4	14.8	13.8	12.6	USt											
115 ft	8.2	▶	82	82	89	98	105	115	ft													
▲▼▲▼			22.0	21.9	20.1	17.7	16.4	14.8	USt													



## Base ballast

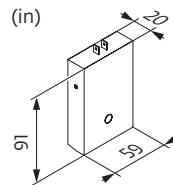
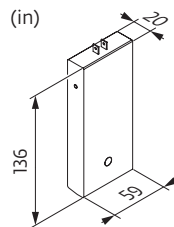
8.0 ft	<b>Y 800B</b> FEM ASCE	H (ft)	250.0	233.6	217.2	200.8	184.4	168.0	157.1	140.6	124.2	107.8	91.4	75.0	58.6			
		(USt)	145.5	119.0	79.4	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1	66.1		
		(USt)																
	<b>YM 850</b> FEM ASCE	H (ft)	281.5	275.9	265.1	259.5	248.7	243.1	232.3	226.7	215.9	210.3	199.5	193.9	183.1	177.5	166.7	
		(USt)	224.9	-	185.2	-	145.5	-	119.0	-	79.4	-	66.1	-	52.9	-	52.9	
		(USt)	-	211.6														
	<b>JM 850</b> FEM ASCE	H (ft)	303.5	287.1	270.7	254.3	237.9	221.5	210.3	199.5	183.1	166.7	150.3	133.9	117.5	101.0	84.6	68.2
		(USt)	198.4	158.7	119.0	92.6	66.1	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9	52.9
		(USt)	198.4															
	<b>ZX 6830</b> FEM ASCE	H (ft)	191.1	174.7	158.3	141.9	125.5	109.1	92.7	76.3	65.4	54.5	38.1					
		(USt)	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4	155.4					
		(USt)	155.4															

## Counter-jib ballast


	(lb) (+/- 5%)			100 LVF - 150 LCC			150 LVF GH		
				13,228 lb	8818 lb	(lb)	13,228 lb	8818 lb	(lb)
<b>262 ft</b>	41,877	40,929	42,825	5	0	66,139	3	2	57,320
<b>246 ft</b>	40,113	39,165	41,061	4	1	61,729	3	1	48,502
<b>230 ft</b>	39,661	38,713	40,609	4	1	61,729	3	1	48,502
<b>213 ft</b>	38,118	37,170	39,066	3	2	57,320	2	2	44,092
<b>197 ft</b>	35,836	34,888	36,784	3	1	48,502	2	1	35,274
<b>180 ft</b>	34,293	33,345	35,241	2	2	44,092	1	2	30,865
<b>164 ft</b>	33,235	32,287	34,183	3	2	57,320	2	2	44,092
<b>148 ft</b>	31,802	30,854	32,750	3	1	48,502	2	1	35,274
<b>131 ft</b>	29,895	28,947	30,843	2	2	44,092	1	2	30,865
<b>115 ft</b>	24,659	23,711	25,607	2	1	35,274	1	1	22,046

CBC - 13,228 lb

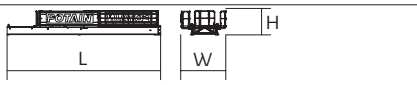
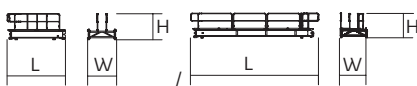





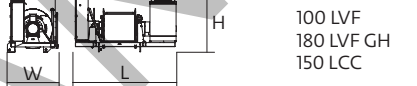

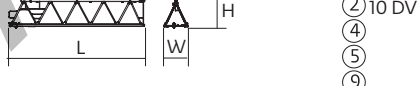






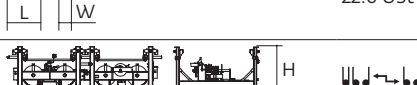



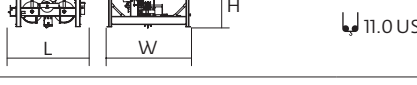


CBD - 8818 lb



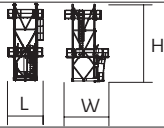
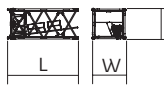
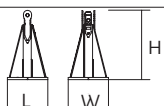
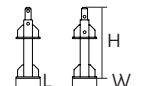
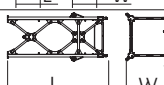
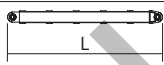


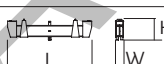
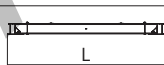
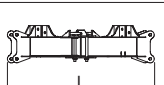

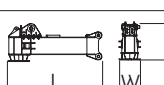
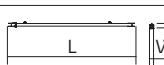
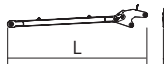
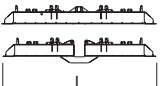
# Component weights

Crane upper :  262 ft -  100 LVF



			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Counter-jib			35.4	10.2	5.6	8300
			12.1	6.2	5.6	2172
			26.9	6.2	5.6	4575
Towerhead			13.8	7.3	38.7	16,546
Cab		UltraView	16.5	7.3	8.2	3704
						
Pivot		□ 8.0 ft	12.5	14.0	9.7	20,349
Hoisting winch (+ rope)		100 LVF	10.4	5.2	6.2	9822
		180 LVF GH	14.0	6.6	7.7	20,349
		150 LCC	12.3	5.4	6.2	12,357
Jib section		①	33.5	6.6	7.8	7081
		② 10 DVF	34.0	6.2	7.4	8278
		④	33.9	6.2	7.3	4641
		⑤	34.3	6.2	7.3	4023
		⑨	33.3	6.2	6.5	2800
		⑩	33.2	6.2	6.4	1973
Jib section		③	17.6	6.2	7.4	3186
		⑥	17.6	6.2	7.3	2238
		⑦	17.5	6.2	7.4	2535
		⑧	17.1	6.2	6.6	1676
Trolley		 22.0 USt	5.9	7.3	5.3	1455
Hook block		 22.0 USt	3.9	1.4	7.4	1940
Trolley		 22.0 USt	13.5	7.2	3.8	2635
Trolley		 11.0 USt	7.0	7.2	3.8	1422
Hook block		 22.0 USt	6.0	1.1	7.3	1951
		 11.0 USt	3.8	0.7	5.8	981

# Component weights

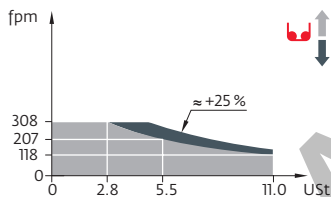
			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Climbing cage		□ 8.0 ft	15.2	19.0	33.6	28,484
K 850/KR 849B KRMT 849A K 849A K 850/KR 849A KMT 850.10A KRMT 849C		□ 8.0 ft	33.6 17.2 17.2 17.2 17.5 11.7	8.3 8.4 8.3 8.3 8.3 8.4	8.2 8.3 8.2 8.2 8.2 8.3	20,878 9017 7496 12,291 12,015 7066
Fixing angles		P 802A	2.5	2.5	4.2	1050
Fixing angles		P 850US	2.3	2.3	5.5	2127
Chassis mast		Y 800B	19.8	9.6	9.6	19,004
Struts		Y 800B	18.1	1.6	1.5	2447
1/2 Side member		Y 800B	18.6	4.1	2.4	3351
Side member		Y 800B	39.4	4.1	2.4	6724
Ballast support		Y 800B	12.3	1.2	3.0	2392
Chassis beam		Y 800B	28.5	2.7	2.4	4938
Central cross (transport position)		YM 850 JM 850	17.1	5.6	4.9	14,771
Chassis mast		YM 850 JM 850	28.7	8.2	8.2	32,187
Chassis girder		YM 850 JM 850	12.5 17.1	3.0 3.0	5.1 5.1	6173 7055
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	4630 5071
Cross girder		ZX 6830	29.9 29.9	3.7 2.5	3.6 4.9	11,607 12,004

# Mechanisms










480 V - 60 Hz												hp	kW		
	<b>100 LVF 50 Optima</b>	fpm	118	151	207	308	59	75	105	154	100	75	3340 ft		
	<b>180 LVF 50 GH Optima</b>	fpm	210	266	361	561	804	112	144	210	344	400	180	132	3937 ft
		USt	11.0	8.3	5.5	2.8	0.9	22.0	16.5	11.0	5.5	3.5			
<b>150 LCC 50</b>	fpm	190	223	282	374	453	95	112	141	187	226	150	110	2579 ft	
	USt	11.0	8.3	5.5	2.8	1.4	22.0	16.5	11.0	5.5	2.8				
	<b>10 DVF 10</b>	fpm	0 → 262 (22.0 USt) 0 → 328 (13.2 USt) 0 → 361 (6.6 USt)									10	7.4		
	<b>RVF 183 Optima+</b>	rpm	0 → 0.8									3 x 12	3 x 9		
	<b>Y 800B RT 584 A1 - 2V</b>	fpm	28 - 56									8 x 8.4	8 x 6.2		
	<b>YM 850 JM 850</b>														
	<b>ZX 6830 RT 664 A2B - 2V</b>	fpm	62 - 125									6 x 8.4	6 x 6.2		










IEC 60204-32	kVA
480 V (+6% -10%) 60 Hz	100 LVF : 106 kVA 150 LCC : 170 kVA 180 LVF GH : 170 → 98 kVA

100 LVF 50 Optima



# Key

	Jib elevation
	Standard equipment
	Options
	Reactions in service
	Reactions out of service
	Weight without load, without ballast, with jib and max. height
	Total ballast weight
	Truck 44 ft
	Container High Cube 40 ft, and/or Flat Rack 20 ft

	Tightened anchorage frame
	Loosened anchorage frame
	Hoisting
	Trolleying
	Slewing
	Travelling
	Required power
	Power Control function: Hoisting speeds adapted to the available power
	Consult us

Note: 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.

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment and price changes without notice. Illustrations shown may include optional equipment and accessories, and may not include all standard equipment.

## Manitowoc Cranes

### Regional Headquarters

#### Americas

Manitowoc, Wisconsin, USA  
Tel: +1 920 684 6621  
Fax: +1 920 683 6277

Shady Grove, Pennsylvania, USA  
Tel: +1 717 597 8121  
Fax: +1 717 597 4062

#### Europe, Middle East, Africa

Dardilly, France  
Tel: +33 472 18 2020  
Fax: +33 472 18 2000

#### China

Shanghai, China  
Tel: +86 21 6457 0066  
Fax: +86 21 6457 4955

#### Greater Asia-Pacific

Singapore  
Tel: +65 6264 1188  
Fax: +65 6862 4040



[www.manitowoccranes.com](http://www.manitowoccranes.com)

RADASANAT.COM

(0098)- 9121834995

Potain MD 485 B M20  
Code 04-026-.25M-0714

© Manitowoc 2014

Courtesy of Crane.Market