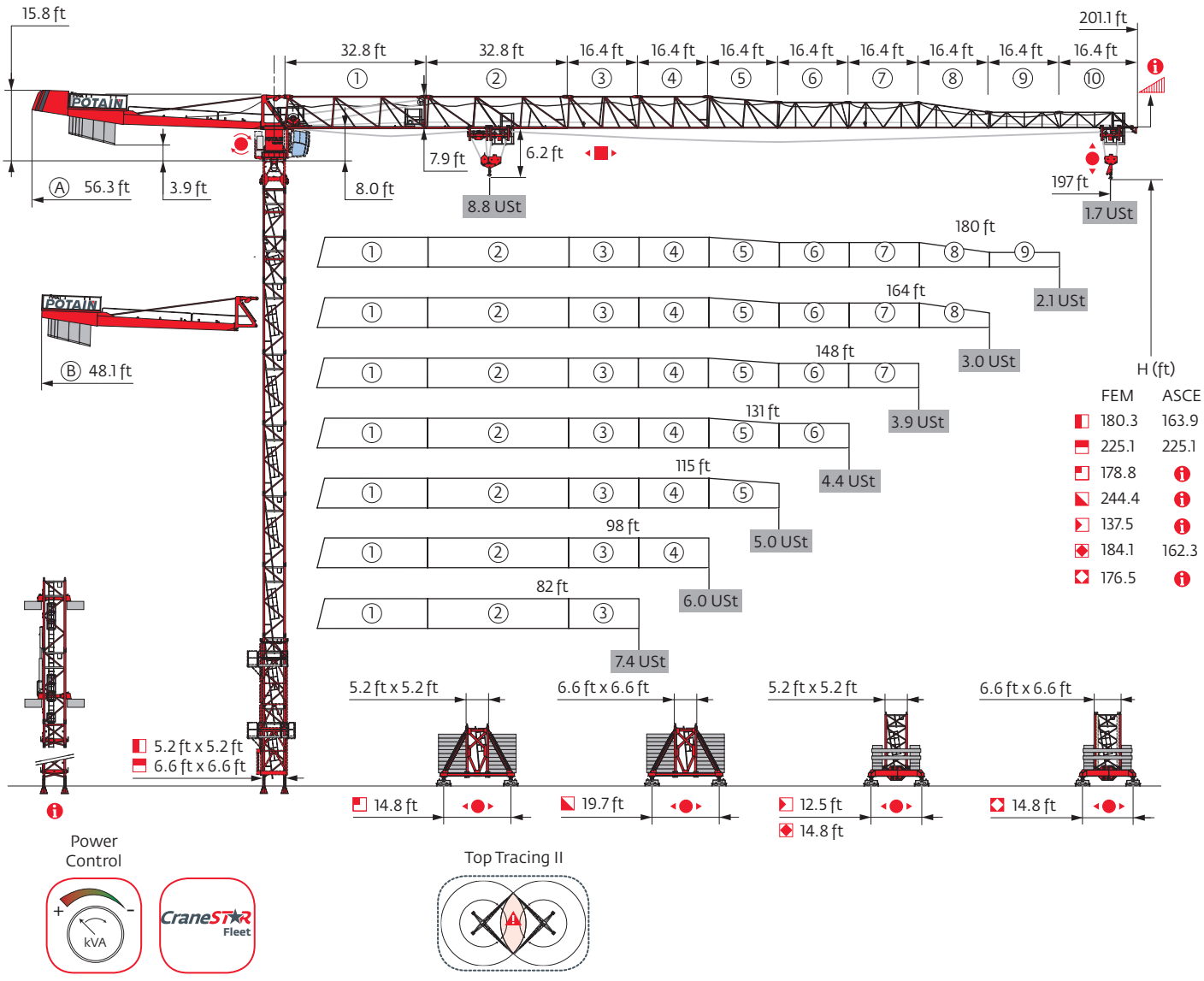
MDT 178

Data Sheet

FEM 1.001-A3
ASCE 7-10



Power Control

Top Tracing II

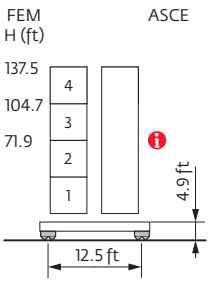
Values have been rounded

Mast

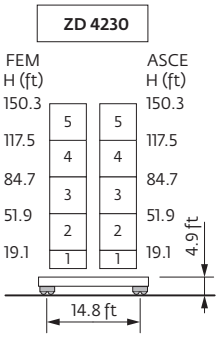
5.2 ft City

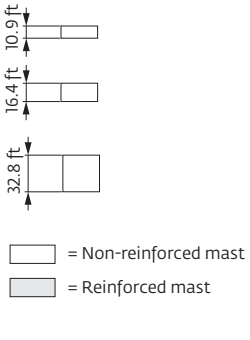
82 ft → 197 ft

ZC 4230



ZD 4230

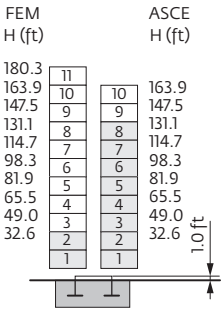




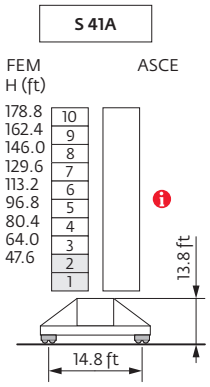
5.2 ft

82 ft → 197 ft

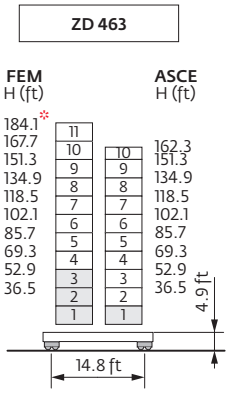
P 41A



S 41A



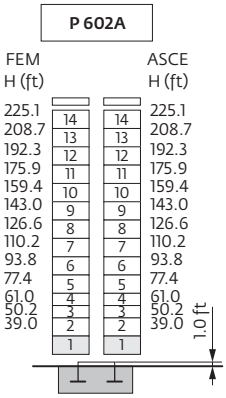
ZD 463



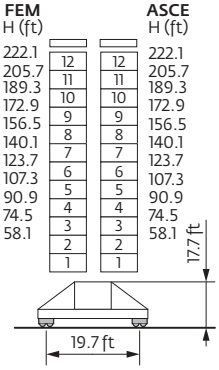
6.6 ft

82 ft → 197 ft

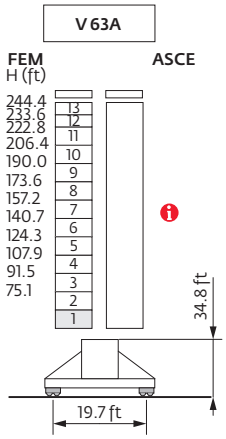
P 602A



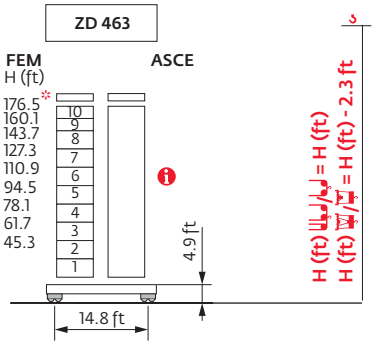
V 60A

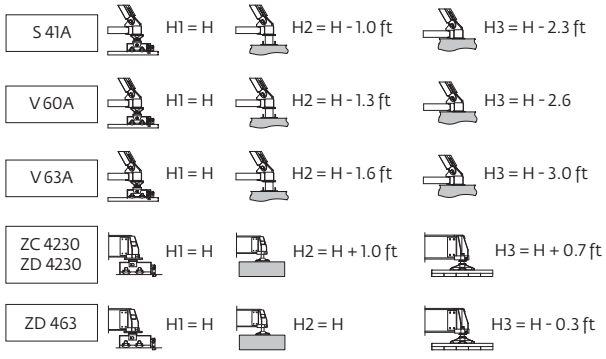


V 63A



ZD 463

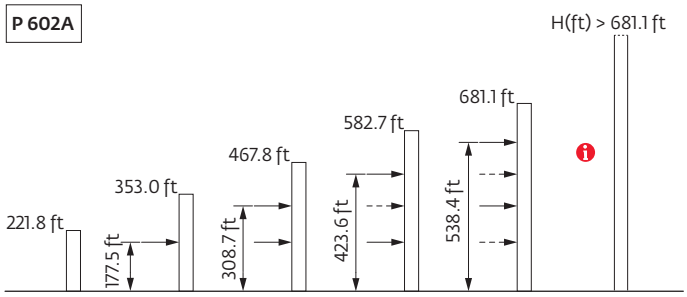




Note: When "ASCE" is noted in this data sheet it is referring to 115 mph Wind Zone, Exposure B, Design Wind Speed = 98 mph.
See back cover for design wind speed calculations.

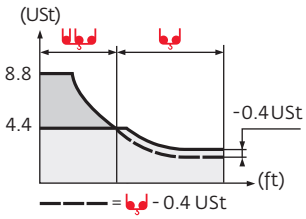
Anchorages (Consult us for ASCE 7-10 values)

P 602A

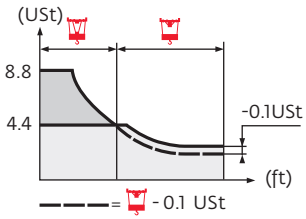


Load charts

197 ft	9	▶	47	49	56	66	72	83	90	98	105	115	121	131	138	148	154	164	171	180	187	197	ft
			8.8	8.3	7.2	5.8	5.2	4.4	4.4	4.0	3.6	3.3	3.1	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	USt
180 ft	9	▶		51	56	66	72	82	90	98	105	115	121	131	138	148	154	164	171	180	ft		
				8.8	7.9	6.5	5.8	5.0	4.4	4.4	4.1	3.6	3.4	3.1	2.9	2.7	2.5	2.4	2.3	2.1	USt		
164 ft	9	▶			61	66	72	82	89	98	109	118	121	131	138	148	154	164	ft				
					8.8	8.2	7.3	6.2	5.6	5.0	4.4	4.4	4.3	3.9	3.6	3.4	3.2	3.0	USt				
148 ft	9	▶			68	72	82	89	98	105	115	121	132	138	148	ft							
					8.8	8.3	7.1	6.5	5.7	5.3	4.7	4.4	4.4	4.2	3.9	USt							
131 ft	9	▶			68	72	82	89	98	105	115	121	131	ft									
					8.8	8.2	7.1	6.4	5.7	5.3	4.7	4.4	4.4	USt									
115 ft	9	▶			68	72	82	89	98	105	115	ft											
					8.8	8.3	7.2	6.5	5.7	5.3	4.7	USt											
98 ft	9	▶			68	72	82	89	98	ft													
					8.8	8.3	7.2	6.5	5.7	USt													
82 ft	9	▶			69	72	82	ft															
					8.8	8.4	7.2	USt															



197 ft	7	▶	48	49	56	66	72	85	87	98	105	115	121	131	138	148	154	164	171	180	187	197	ft
			8.8	8.5	7.4	6.1	5.4	4.4	4.4	3.7	3.5	3.1	2.9	2.6	2.5	2.3	2.1	1.9	1.8	1.7	1.6	1.5	USt
180 ft	7	▶		52	56	66	72	82	93	95	105	115	121	131	138	148	154	164	171	180	ft		
				8.8	8.2	6.7	6.1	5.2	4.4	4.4	3.9	3.5	3.3	3.0	2.8	2.5	2.4	2.2	2.1	1.9	USt		
164 ft	7	▶			62	66	72	82	89	98	105	112	114	121	131	138	148	154	164	ft			
					8.8	8.3	7.4	6.4	5.8	5.2	4.7	4.4	4.4	4.1	3.7	3.5	3.2	3.0	2.8	USt			
148 ft	7	▶				69	72	82	89	98	105	115	125	128	131	138	148	ft					
						8.8	8.4	7.3	6.6	5.8	5.4	4.9	4.4	4.4	4.3	4.0	3.7	USt					
131 ft	7	▶				70	72	82	89	98	105	115	126	129	131	ft							
						8.8	8.5	7.3	6.7	6	5.5	5.0	4.4	4.4	4.3	USt							
115 ft	7	▶				70	72	82	89	98	105	115	ft										
						8.8	8.5	7.4	6.7	6.0	5.5	5.0	USt										
98 ft	7	▶				70	72	82	89	98	ft												
						8.8	8.5	7.4	6.7	6.0	USt												
82 ft	7	▶				70	72	82	ft														
						8.8	8.6	7.4	USt														



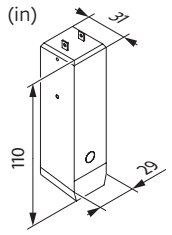
Base ballast

5.2 ft City	ZC 4230	H (ft)	137.5	104.7	71.9							
	FEM	(USt)	88.2	82.7	77.2							
	ASCE	(USt)		ℹ								
	ZD 4230	H (ft)	150.3	117.5	84.7	51.9	19.1					
	FEM	(USt)	77.2	66.1	60.6	60.6	60.6					
	ASCE	(USt)			ℹ							
5.2 ft	S 41A	H (ft)	178.8	162.4	146.0	129.6	113.2	96.8	80.4	64.0	47.6	
	FEM	(USt)					ℹ					
	ASCE	(USt)					ℹ					
	ZD 463	H (ft)	184.1	167.7	162.3	151.3	134.9	118.5	102.1	85.7	69.3	52.9	36.5
	FEM	(USt)	126.8*	99.2	-	88.2	77.2	71.7	71.7	71.7	71.7	71.7	71.7
	ASCE	(USt)	-	-	93.7		ℹ						
6.6 ft	V 60A	H (ft)	222.1	205.7	189.3	172.9	156.5	140.1	123.7	107.3	90.9	74.5	58.1
	FEM	(USt)	145.5	119.0	92.6	79.4	52.9	26.5	26.5	26.5	26.5	26.5	26.5
	ASCE	(USt)	145.5				ℹ						
	V 63A	H (ft)	244.4	233.6	222.8	206.4	190.0	173.6	157.2	140.7	124.3	107.9	91.5	75.1
	FEM	(USt)	198.4	185.2	158.7	132.3	92.6	79.4	52.9	26.5	26.5	26.5	26.5	26.5
	ASCE	(USt)					ℹ							
	ZD 463	H (ft)	176.5	160.1	143.7	127.3	110.9	94.5	78.1	61.7	45.3		
	FEM	(USt)	132.3*	93.7	60.6	55.1	55.1	55.1	55.1	55.1	55.1		
	ASCE	(USt)					ℹ						

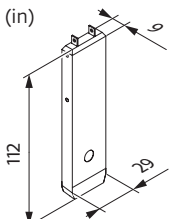
Counter-jib ballast

	(lb) - 33 LVF (+/- 5%)					
				7937 lb	2425 lb	(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	18,353	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	15,730	15,344	16,072	3	0	23,810
82 ft	14,914	14,517	15,267	2	3	23,149

CAU - 7937 lb



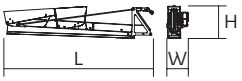
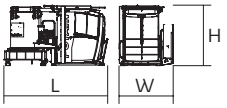
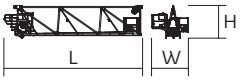
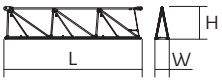
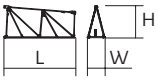
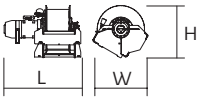
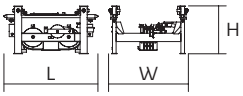
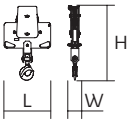
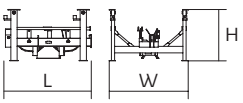
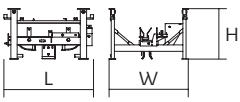
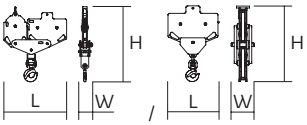
CAV - 2425 lb



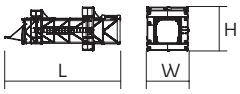
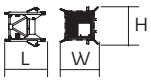
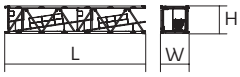
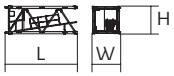
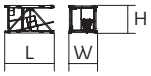
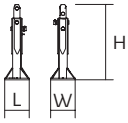
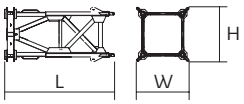
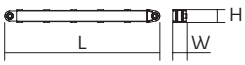
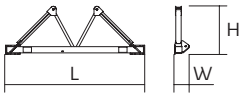
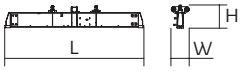
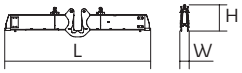
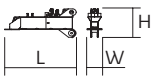
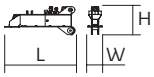
Component weights

Crane upper : 197 ft - 33 LVF

x 3
x 3

			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Counter-jib		Ⓐ Ⓑ	38.9 38.9	5.3 5.3	8.2 8.2	11,343 10,935
Pivot + cab		UltraView	14.2	7.4	8.1	12,324
Jib section		① 33 LVF 7 DVF	36.2	9.6	8.6	8378
Jib section		③ ④ ⑥ ⑦ ⑨	17.1 17.0 17.0 16.9 17.0	3.4 3.4 3.4 3.4 3.4	7.6 7.6 6.2 6.2 3.8	1323 1334 860 783 529
Jib section		②	33.6	3.4	7.7	3208
Jib section		⑤ ⑧	17.0 17.0	3.4 3.4	7.6 6.2	1058 661
Jib section		⑩	16.7	3.4	3.8	441
Hoisting winch (+ rope)		33 LVF 50 LVF 50 LVF GH	4.6 4.9 5.2	2.7 3.1 4.4	2.5 3.0 4.1	1995 2646 4453
Trolley		8.8 USt	5.2	4.4	2.9	617
Hook block		8.8 USt	3.0	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 5.0	4.1 4.3	3.1 3.1	617 518
Hook block		8.8 USt 4.4 USt	4.1 2.6	0.9 0.6	5.0 4.5	551 287

Component weights

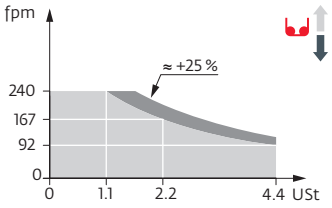
			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Climbing cage		⍁5.2 ft ⍁6.6 ft	36.7 37.7	12.9 13.8	11.7 14.3	12,930 18,155
K40/K40 K60/K40		⍁5.2 ft ⍁6.6/5.2ft	7.3 7.3	6.9 8.2	6.8 8.1	3208 5754
K 437B KM 436E KM 437E K 639B		⍁5.2 ft ⍁5.2 ft ⍁5.2 ft ⍁6.6 ft	33.5 33.5 33.5 33.6	5.5 5.3 5.3 6.8	5.3 5.3 5.3 6.7	7606 6096 7088 11,662
K 437A K 439A KR 649A K 639A		⍁5.2 ft ⍁5.2 ft ⍁6.6 ft ⍁6.6 ft	17.1 17.1 17.2 17.2	5.5 5.5 6.9 6.8	5.3 5.3 6.8 6.7	4079 4916 7165 6184
K 437C K 639C		⍁5.2 ft ⍁6.6 ft	11.0 11.7	5.5 6.8	5.3 6.7	2998 4376
Fixing angles		P 41A P 602A	1.2 2.1	1.2 2.1	3.7 4.2	298 650
Chassis mast		S 41A V 60A V 63A	11.9 16.4 32.9	6.4 7.9 7.9	6.8 7.9 7.9	6537 9678 16,502
Struts		S 41A V 60A V 63A	10.4 14.8 14.8	0.9 1.0 1.1	0.8 1.0 1.1	496 926 1135
Half-bearer		S 41A V 60A V 63A	16.7 22.0 22.0	2.0 2.3 2.3	5.8 7.6 7.6	2524 3527 4079
Cross girder		ZC 4230 ZD 4230	18.5 21.8	2.7 2.7	3.4 3.4	3505 4034
Cross girder		ZC 4230 ZD 4230	18.5 21.8	1.5 1.5	4.4 4.4	4178 4707
Cross girder		ZD 463	25.1	3.8	4.5	7904
1/2 Cross girder		ZD 463	11.2	2.3	4.4	3649
1/2 Cross girder		ZD 463	11.2	2.4	4.4	3682

Mechanisms

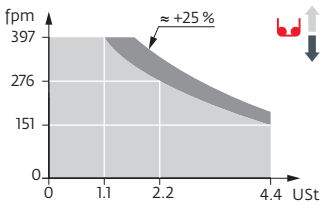
480 V - 60 Hz											hp	kW	
	33 LVF 20 Optima	fpm	92	118	167	240	46	59	84	120	33	22	951 ft
		USt	4.4	3.3	2.2	1.1	8.8	6.6	4.4	2.2			
	50 LVF 20 Optima	fpm	151	194	276	397	75	97	138	198	50	37	1191 ft
		USt	4.4	3.3	2.2	1.1	8.8	6.6	4.4	2.2			
	50 LVF 20 GH Optima	fpm	141	180	259	371	71	90	130	185	50	37	2080 ft
		USt	4.4	3.3	2.2	1.1	8.8	6.6	4.4	2.2			
	7 DVF 4	fpm	0 → 259								6.5	4.8	
	RVF 152 Optima+	rpm	0 → 0.8								2 x 5.5	2 x 4	
S 41A	RT 443 A1 - 2V R ≥ 10 m	fpm	59 - 118								4 x 6	4 x 4.4	
V 60A	RT 544 A1 - 2V R ≥ 13 m	fpm	52 - 105								4 x 8.4	4 x 6.2	
V 63A	RT 664 A2B - 2V	fpm	62 - 125								6 x 8.4	6 x 6.2	
ZC 4230 ZD 4230	RT 324	fpm	49 - 98								2 x 8.4	2 x 6.2	
ZD 463	RT 443 A1 - 2V	fpm	59 - 118								4 x 6	4 x 4.4	

IEC 60204-32	kVA
480 V (+6% -10%) 60 Hz	33 LVF : 40 → 27 kVA 50 LVF / 50 LVF GH: 54 kVA

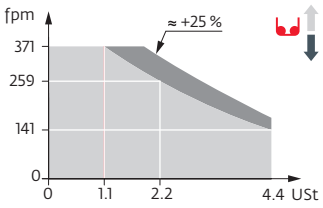
33 LVF 20 Optima



50 LVF 20 Optima



50 LVF 20 GH Optima



Key

Jib elevation	Tightened anchorage frame
Standard equipment	Loosened anchorage frame
Options	Hoisting
Reactions in service	Trolleying
Reactions out of service	Slewing
Weight without load, without ballast, with jib and max. height	Travelling
Total ballast weight	Required power
Truck 44 ft	Static use only
Container High Cube 40 ft, and/or Flat Rack 20 ft	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.

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