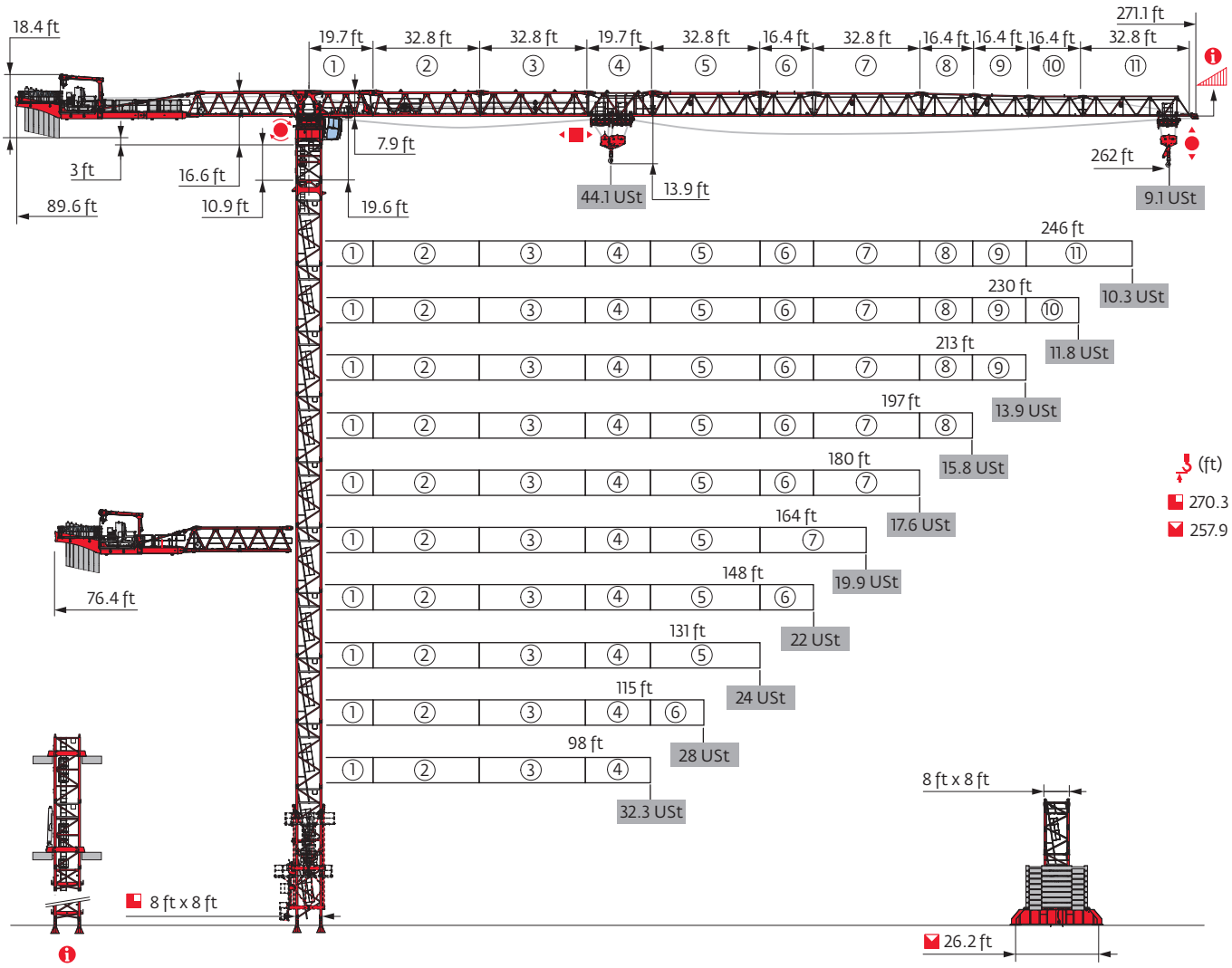
POTAIN®
by Manitowoc

MDT 809 M40



Potain Plus | Power Control | Top Site | Top Tracing 3

CraneSTAR Diag

ASCE 7-10

Values have been rounded.

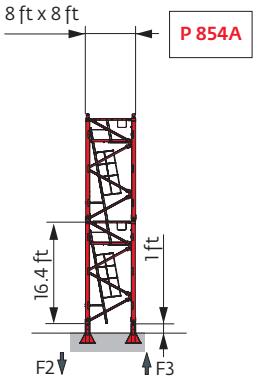
Mast - Reactions

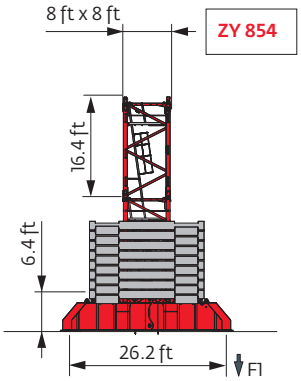
8 ft - P 854A												
(ft)		98	115	131	148	164	180	197	213	230	246	262
(ft)		259.2	264.8	259.2	259.2	264.8	270.3	264.8	264.8	259.2	259.2	253.9
/P+ (ft)		242.8	248.4	242.8	242.8	242.8	242.8	237.5	242.8	242.8	259.2	253.9
10.9 ft		1	1	1	1	1	1	1	1	1	1	1
6.2 ft		1	1	1	1	1	1	1	1	1	1	1
10.9 ft		0	2	0	0	2	1	2	2	0	0	1
16.4 ft		15	14	15	15	14	15	14	14	15	15	14
F2 (USt)	●	414	415	418	412	420	417	419	413	406	418	414
	■	496	518	496	503	532	553	540	547	531	533	523
F3 (USt)	●	275	271	271	262	266	262	264	257	251	260	256
	■	379	395	370	375	399	420	406	412	398	396	386

8 ft - ZY 854 -												
(ft)		98	115	131	148	164	180	197	213	230	246	262
(ft)		241.5	257.9	235.9	257.9	252.3	252.3	241.5	246.7	246.7	246.7	241.5
/P+ (ft)		208.7	203.1	192.3	186.7	175.9	197.5	175.9	197.5	192.3	225.1	225.1
10.9 ft		1	1	1	1	1	1	1	1	1	1	1
6.2 ft		1	1	1	1	1	1	1	1	1	1	1
10.9 ft		1	1	2	1	2	2	1	0	0	0	1
16.4 ft		13	14	12	14	13	13	13	14	14	14	13
F1 (USt)	●	229	240	229	245	241	238	238	241	244	242	241
	■	198	230	194	239	227	229	214	224	233	235	232

Motorized accesses of Cab-IN 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.


8 ft x 8 ft
P 854A
16.4 ft
1 ft
F2
F3


8 ft x 8 ft
ZY 854
16.4 ft
6.4 ft
26.2 ft
F1

Anchorages

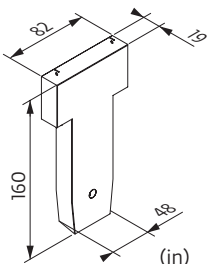
Base ballast

(USt) / 8 ft - ZY 854 -												
(ft)	98	115	131	148	164	180	197	213	230	246	262
257.9		158.7		145.5							
252.3		158.7		145.5	145.5	158.7					
246.7		145.5		132.3	132.3	158.7		172	185.2	185.2	
241.5	145.5	145.5		132.3	132.3	158.7	172	172	172	185.2	185.2
235.9	145.5	145.5	145.5	132.3	132.3	158.7	172	172	172	172	185.2
219.5	132.3	119.1	132.3	105.8	105.8	158.7	158.7	158.7	172	172	185.2
203.1	132.3	132.3	105.8	92.6	105.8	145.5	158.7	158.7	158.7	158.7	185.2
186.7	119.1	105.8	105.8	105.8	92.6	145.5	145.5	158.7	158.7	158.7	185.2
170.3	105.8	92.6	92.6	92.6	92.6	145.5	145.5	145.5	145.5	158.7	185.2
153.9	92.6	92.6	92.6	92.6	92.6	132.3	145.5	145.5	145.5	158.7	185.2
137.5	92.6	92.6	92.6	92.6	92.6	132.3	132.3	132.3	145.5	158.7	185.2
121.1	92.6	92.6	92.6	92.6	92.6	132.3	132.3	132.3	132.3	158.7	185.2
104.7	92.6	92.6	92.6	92.6	92.6	119.1	119.1	132.3	132.3	158.7	185.2
88.3	92.6	92.6	92.6	92.6	92.6	119.1	119.1	119.1	132.3	158.7	185.2
71.9	92.6	92.6	92.6	92.6	92.6	105.8	119.1	119.1	132.3	158.7	185.2

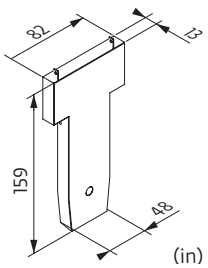
Counter-jib ballast

	320 LVF			320 LVF GH		
	14,551 lb	10,362 lb	(lb)	14,551 lb	10,362 lb	(lb)
262 ft	6	1	97,665	5	2	93,476
246 ft	5	2	93,476	4	3	89,287
230 ft	4	3	89,287	6	0	87,303
213 ft	4	3	89,287	5	1	83,114
197 ft	5	1	83,114	4	2	78,925
180 ft	4	2	78,925	5	0	72,753
164 ft	5	2	93,476	4	3	89,287
148 ft	6	0	87,303	5	1	83,114
131 ft	4	2	78,925	3	3	74,737
115 ft	4	1	68,564	3	2	64,375
98 ft	4	0	58,202	3	1	54,013

CCP - 14,551 lb



CCQ - 10,362 lb



Load curves

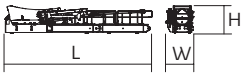
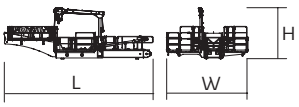
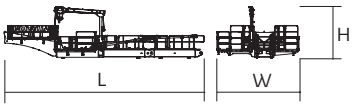
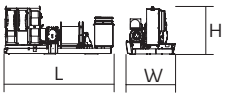
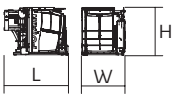
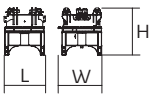
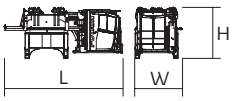
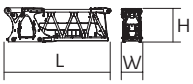
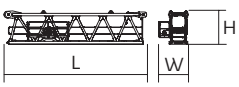
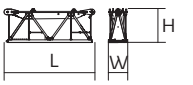
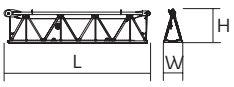
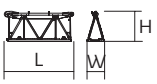
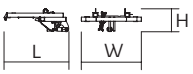
(ft)			56	66	82	98	105	115	121	131	138	148	154	164	171	180	187	197	203	213	220	230	236	246	253	262	ft
	44.1 USt	22 USt																									
262	14.8 → 61	108.8 - 117.5	44.1	40.5	31.1	24.9	23	22	21.2	19.4	18.3	16.9	16.1	14.9	14.2	13.3	12.7	11.9	11.5	10.8	10.4	9.8	9.5	9	8.7	8.3	USt
	14.8 → 65.4	116.8 - 126.2	44.1	43.9	33.8	27.2	25.1	22.5	22	21.1	19.9	18.4	17.5	16.2	15.5	14.5	13.9	13.1	12.5	11.8	11.4	10.8	10.4	9.9	9.6	9.1	USt P+
246	14.8 → 62.4	111.7 - 120.4	44.1	41.6	32	25.7	23.8	22	21.8	20	18.9	17.4	16.6	15.4	14.7	13.7	13.2	12.4	11.9	11.2	10.8	10.2	9.9	9.4	USt		
	14.8 → 67.1	120.3 - 129.7	44.1	44.1	34.9	28.1	26	23.4	22	21.7	20.6	19	18.1	16.8	16.1	15	14.4	13.5	13	12.3	11.9	11.2	10.8	10.3	USt P+		
230	14.8 → 64.5	116.1 - 124.7	44.1	43.3	33.4	26.9	24.9	22.3	22	20.8	19.7	18.2	17.3	16.1	15.4	14.4	13.8	13	12.5	11.8	11.3	10.7	USt				
	14.8 → 69.6	125.4 - 134.7	44.1	44.1	36.5	29.5	27.3	24.5	22.9	22	21.5	19.9	18.9	17.6	16.8	15.8	15.1	14.2	13.7	12.9	12.5	11.8	USt P+				
213	14.8 → 68.5	123.4 - 132.5	44.1	44.1	35.8	28.9	26.8	24.1	22.5	22	21.1	19.5	18.6	17.3	16.5	15.5	14.8	13.9	13.4	12.7	USt						
	14.8 → 74	133.3 - 143.5	44.1	44.1	39.2	31.7	29.4	26.4	24.7	22.5	22	21.3	20.3	18.9	18.1	17	16.3	15.3	14.7	13.9	USt P+						
197	14.8 → 70	126.2 - 135.6	44.1	44.1	36.7	29.7	27.5	24.7	23.1	22	21.6	20	19	17.7	16.9	15.9	15.2	14.3	USt								
	14.8 → 75.8	136.3 - 147	44.1	44.1	40.3	32.6	30.2	27.2	25.4	23.1	22	21.9	20.9	19.5	18.6	17.4	16.7	15.8	USt P+								
180	14.8 → 70.4	126.9 - 136.4	44.1	44.1	37	29.9	27.7	24.9	23.3	22	21.8	20.1	19.2	17.9	17.1	16	USt										
	14.8 → 76.3	137.1 - 148	44.1	44.1	40.6	32.9	30.5	27.4	25.6	23.3	22	22	21	19.6	18.8	17.6	USt P+										
164	14.8 → 71.5	129 - 138.6	44.1	44.1	37.7	30.5	28.2	25.4	23.7	22	22	20.5	19.5	18.2	USt												
	14.8 → 76.1	139.1 - 149.7	44.1	44.1	40.5	33	30.6	27.6	25.9	23.6	22.3	22	21.3	19.9	USt P+												
148	14.8 → 71.2	128.3 - 137.8	44.1	44.1	37.4	30.3	28.1	25.2	23.6	22	22	20.4	USt														
	14.8 → 75.1	137.2 - 147.6	44.1	44.1	39.9	32.5	30.2	27.2	25.5	23.2	22	22	USt P+														
131	14.8 → 73.9		44.1	44.1	39.1	31.7	29.4	26.4	24.7	22.5	USt																
	14.8 → 76.2		44.1	44.1	40.7	33.2	30.9	27.9	26.2	24	USt P+																
115	14.8 → 72.8		44.1	44.1	38.4	31.1	28.8	25.9	USt																		
	14.8 → 76.3		44.1	44.1	40.8	33.3	31	28	USt P+																		
98	14.8 → 72.3		44.1	44.1	38.2	30.9	USt																				
	14.8 → 75.2		44.1	44.1	39.9	32.3	USt P+																				

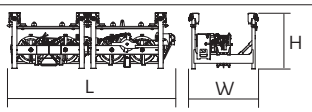
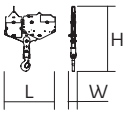
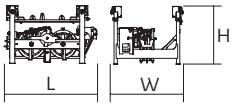
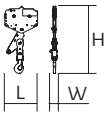
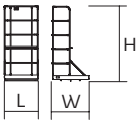
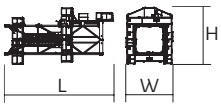
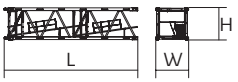
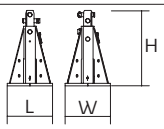
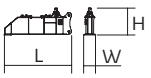
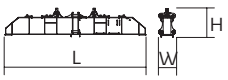
= - 2.24 USt max.

Dimensions and weight

Slewing crane part: 262 ft - - 320 LVF

x 11
x 10

Slewing crane part			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Counter-jib			25.9	7.4	7.4	22,240
			39.4	7.4	7.4	31,048
			34	6.7	8.1	22,070
			39.7	21.9	13.7	26,109
			52.8	21.9	13.7	34,959
Hoisting winch (+ rope)		320 LVF 320 LVF GH	16.8 18.4	7.3 7.2	7.3 7.8	21,437 31,150
Cab		Ultra View	11	7.5	8.2	6,614
Towerhead		⍁8 ft	8.5	8.2	9.7	34,392
			22.5	8.2	9.7	41,006
Jib section		①	25.6	5.1	8.2	27,893
		② ③	34.5 34.1	7.3 4.8	8.2 8.1	27,133 18,683
		④	20.9	4.5	7.9	8,754
		⑤ ⑦ ⑪	34.4 33.9 33.2	4.5 4.5 4.5	7.8 7.5 6.4	10,983 7,043 3,103
		⑥ ⑧ ⑨ ⑩	17.8 17.3 17.3 17.3	4.5 4.5 4.5 4.5	7.7 7.3 6.8 6.7	4,859 3,013 2,175 1,955
			5.5	5.2	1.9	728

			L (ft)	W (ft)	H (ft)	lb (+/- 5%)
Trolley		44.1 USt	13.8	5.9	4.9	3,219
Pulley block		44.1 USt	7.5	1.1	9.7	2,888
Trolley		22 USt	6.9	5.9	4.9	1,720
Pulley block		22 USt	5	1.1	10	1,786
Trolley inspection platform			3.1	3.4	7	125
Crane tower						
T 851		⍁8 ft	36.7	15.9	19	34,723
K 850/K 850		⍁8 ft	7.3	10.7	8.2	8,069
KM 850.10B KM 850.14B KMT 850.10A KMT 850.14A KMT 850.10C		⍁8 ft	33.9 33.9 17.5 17.5 12	8.3 8.3 8.3 8.3 8.3	8.2 8.2 8.2 8.2 8.2	22,201 24,670 12,015 13,206 9,326
Fixing angles		P 854A	3	3	4.9	2,072
1/2 Cross girder		ZY 854	18.6	3.2	7.4	13,095
Cross girder		ZY 854	39	4.7	7.4	29,432

Mechanisms

480 V - 60 Hz												hp	kW	
	320 LVF 100 Optima	fpm	220	282	387	486	531	112	141	197	243	266	320	240	1,745 ft
		USt	22	16.5	11	7.5	6.6	44.1	33.1	22	15.7	14			
	320 LVF 100 GH Optima	fpm	220	279	369	436		112	141	187	218		320	240	3,488 ft
		USt	22	16.5	11	8		44.1	33.1	22	18.1				
	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 174 Optima +	rpm	0 → 0.7										4 x 10	4 x 7.5	

IEC 60204-32	kVA
480 V (+6% -10%) 60 Hz	306 → 178 kVA

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
- 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
- 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

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