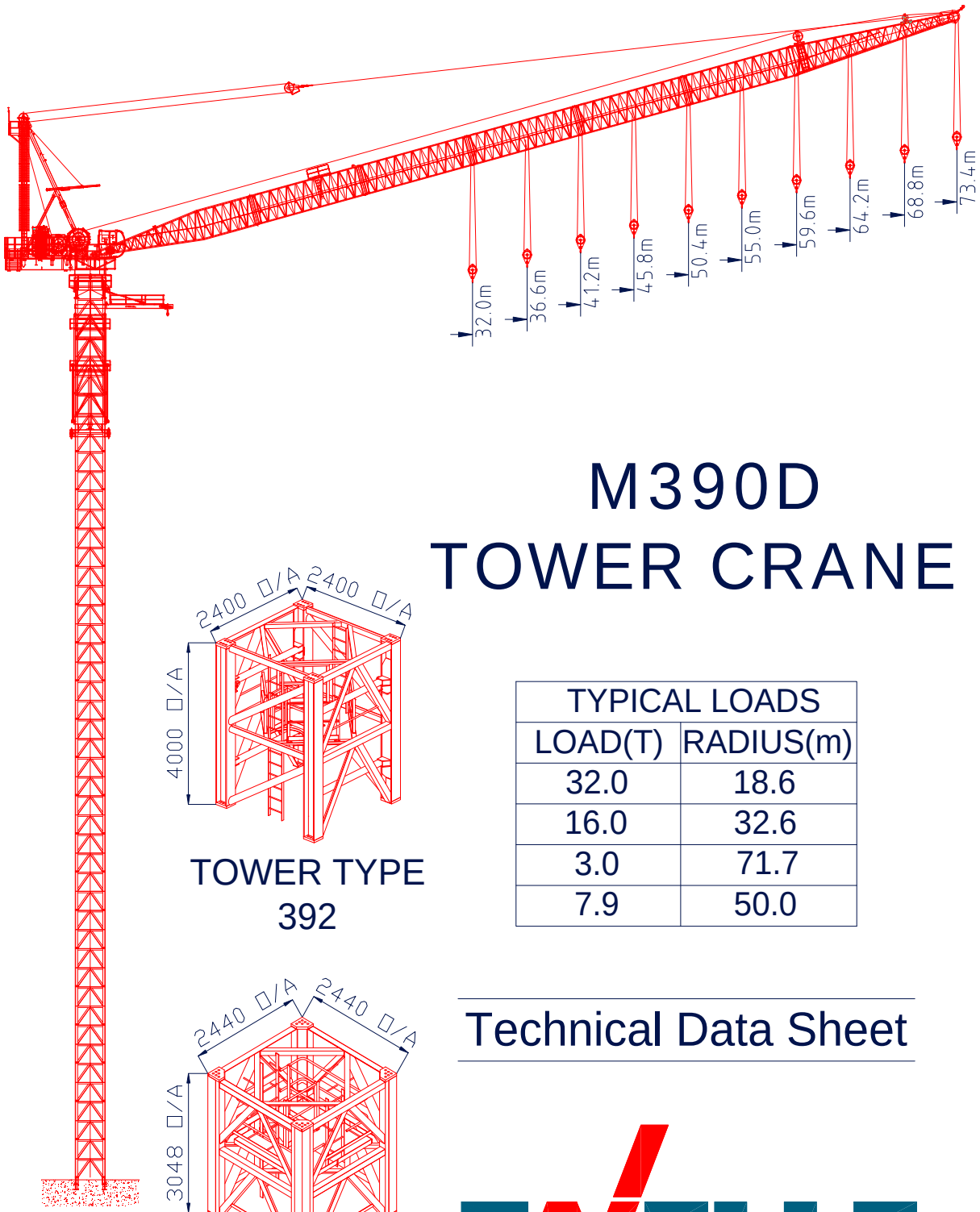
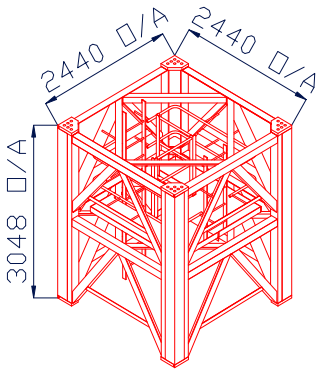


M390D
TOWER CRANE

TOWER TYPE
392

TYPICAL LOADS	
LOAD(T)	RADIUS(m)
32.0	18.6
16.0	32.6
3.0	71.7
7.9	50.0



TOWER TYPE
1150

Technical Data Sheet

FAVELLE
FAVCO

M390D RADIUS AND CAPACITY (16T WINCH)

Boom Length	Max Rad. for Max WLL	Min Rad.	WLL at Min Rad.	1 FALL Radius (metres) & Capacity (tonnes)																		Max Rad.	WLL at Max Rad.
				7.5	10.0	15.0	20.0	25.0	30.0	35.0	40.0	42.5	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0		
(m)	(m)	(m)	(T)																					(m)	(T)
73.4	**-**	6.4	15.0	15.0	14.9	14.0	12.5	11.3	10.2	9.3	8.5	8.1	7.5	6.8	6.2	5.7	5.2	4.8	4.4	4.0	3.7	3.4	3.1	71.7	3.0
68.8	**17.9**	6.1	16.0	16.0	16.0	16.0	15.3	13.9	12.8	11.5	9.4	8.6	7.9	7.2	6.6	6.0	5.6	5.1	4.7	4.4	4.0	-	-	67.2	3.8
64.2	**28.2**	5.7	16.0	16.0	16.0	16.0	16.0	16.0	14.8	12.0	9.9	9.1	8.3	7.7	7.1	6.5	6.0	5.6	5.2	4.9	-	-	-	62.8	4.8
59.6	**28.9**	5.3	16.0	16.0	16.0	16.0	16.0	16.0	15.2	12.4	10.3	9.5	8.7	8.0	7.4	6.9	6.4	6.0	-	-	-	-	-	58.3	5.9
55.0	**29.6**	5.0	16.0	16.0	16.0	16.0	16.0	16.0	15.7	12.9	10.8	10.0	9.2	8.5	7.9	7.4	-	-	-	-	-	-	-	53.9	7.1
50.4	**30.3**	4.7	16.0	16.0	16.0	16.0	16.0	16.0	16.0	13.3	11.2	10.4	9.6	8.9	-	-	-	-	-	-	-	-	-	49.4	8.5
45.8	**31.1**	4.3	16.0	16.0	16.0	16.0	16.0	16.0	16.0	13.8	11.7	10.8	10.1	-	-	-	-	-	-	-	-	-	-	45.0	10.1
41.2	**31.8**	4.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	14.2	12.1	-	-	-	-	-	-	-	-	-	-	-	-	40.5	11.9
36.6	**32.6**	3.7	16.0	16.0	16.0	16.0	16.0	16.0	16.0	14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	36.1	14.2
32.0	**31.7**	3.4	16.0	16.0	16.0	16.0	16.0	16.0	16.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.7	16.0

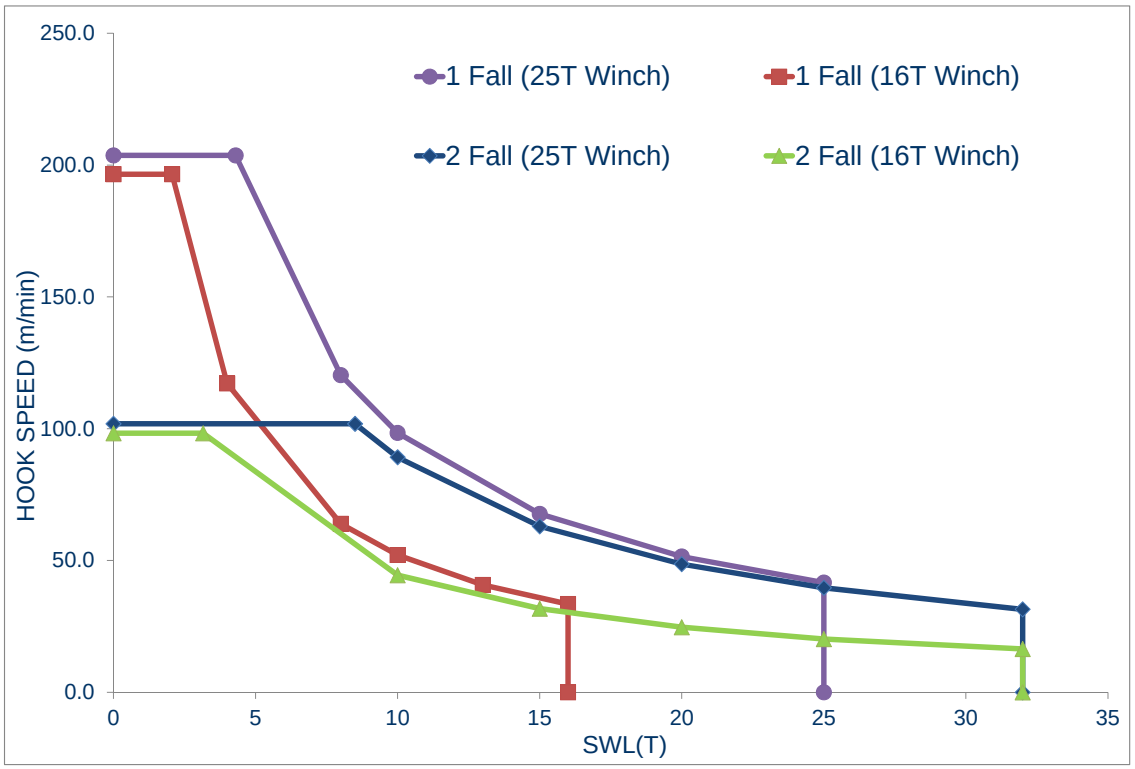
Boom Length	Max Rad. for Max WLL	Min Rad.	WLL at Min Rad.	2 FALL Radius (metres) & Capacity (tonnes)																		Max Rad.	WLL at Max Rad.
				7.5	10.0	15.0	20.0	25.0	30.0	35.0	40.0	42.5	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0		
(m)	(m)	(m)	(T)																					(m)	(T)
73.4	**-**	6.3	15.0	15.0	14.9	14.0	12.5	11.3	10.2	9.3	8.5	7.9	7.1	6.4	5.8	5.2	4.7	4.3	3.8	3.5	3.1	2.8	2.6	71.5	2.5
68.8	**-**	6.0	23.5	22.4	21.1	19.3	17.2	15.6	14.2	11.4	9.2	8.3	7.5	6.8	6.2	5.6	5.1	4.7	4.3	3.9	3.6	-	-	67.1	3.4
64.2	**-**	5.7	27.2	26.7	25.6	23.4	21.1	18.9	14.9	12.0	9.8	8.9	8.1	7.4	6.7	6.2	5.7	5.2	4.8	-	-	-	-	62.6	4.5
59.6	**8.4**	5.3	32.0	32.0	31.1	28.3	25.7	19.5	15.4	12.4	10.2	9.3	8.5	7.8	7.2	6.6	6.1	5.7	-	-	-	-	-	58.2	5.6
55.0	**17.0**	5.0	32.0	32.0	32.0	32.0	26.4	20.1	16.0	13.0	10.8	9.9	9.1	8.4	7.7	7.2	-	-	-	-	-	-	-	53.8	7.0
50.4	**17.3**	4.7	32.0	32.0	32.0	32.0	27.0	20.7	16.5	13.5	11.2	10.3	9.5	8.8	-	-	-	-	-	-	-	-	-	49.2	8.4
45.8	**17.6**	4.4	32.0	32.0	32.0	32.0	27.7	21.3	17.0	14.0	11.8	10.9	-	-	-	-	-	-	-	-	-	-	-	44.9	10.2
41.2	**17.9**	4.1	32.0	32.0	32.0	32.0	28.3	21.8	17.5	14.5	12.2	-	-	-	-	-	-	-	-	-	-	-	-	40.4	12.1
36.6	**18.2**	3.7	32.0	32.0	32.0	32.0	28.9	22.3	18.1	15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	36.0	14.6
32.0	**18.6**	3.4	32.0	32.0	32.0	32.0	29.5	22.9	18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.5	17.7

M390D RADIUS AND CAPACITY (25T WINCH)

Boom Length	Max Rad. for Max WLL	Min Rad.	WLL at Min Rad.	1 FALL Radius (metres) & Capacity (tonnes)																			Max Rad.	WLL at Max Rad.
				7.5	10.0	15.0	20.0	25.0	30.0	35.0	40.0	42.5	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0	
(m)	(m)	(m)	(T)																				(m)	(T)
73.4	**-**	6.7	15.0	15.0	14.9	14.0	12.5	11.3	10.2	9.3	8.5	7.9	7.1	6.4	5.8	5.2	4.7	4.3	3.8	3.5	3.1	2.8	2.6	72.0	2.4
68.8	**-**	6.4	23.5	22.4	21.1	19.3	17.2	15.6	14.2	11.4	9.2	8.3	7.5	6.8	6.2	5.6	5.1	4.7	4.3	3.9	3.6	3.3	-	67.5	3.3
64.2	**11.5**	6.0	25.0	25.0	25.0	23.4	21.1	18.9	14.9	12.0	9.8	8.9	8.1	7.4	6.7	6.2	5.7	5.2	4.8	4.5	-	-	-	63.1	4.4
59.6	**20.5**	5.6	25.0	25.0	25.0	25.0	25.0	19.5	15.4	12.4	10.2	9.3	8.5	7.8	7.2	6.6	6.1	5.7	-	-	-	-	-	58.6	5.5
55.0	**20.9**	5.3	25.0	25.0	25.0	25.0	25.0	20.1	16.0	13.0	10.8	9.9	9.1	8.4	7.7	7.2	-	-	-	-	-	-	-	54.2	6.9
50.4	**21.3**	4.7	25.0	25.0	25.0	25.0	25.0	20.7	16.5	13.5	11.2	10.3	9.5	8.8	-	-	-	-	-	-	-	-	-	49.7	8.3
45.8	**21.8**	4.6	25.0	25.0	25.0	25.0	25.0	21.3	17.0	14.0	11.8	10.9	10.1	-	-	-	-	-	-	-	-	-	-	45.3	10.0
41.2	**22.2**	4.3	25.0	25.0	25.0	25.0	25.0	21.8	17.5	14.5	12.2	-	-	-	-	-	-	-	-	-	-	-	-	40.9	12.0
36.6	**22.7**	4.0	25.0	25.0	25.0	25.0	25.0	22.3	18.1	15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	36.4	14.4
32.0	**23.0**	3.7	25.0	25.0	25.0	25.0	25.0	22.9	18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.0	17.3

Boom Length	Max Rad. for Max WLL	Min Rad.	WLL at Min Rad.	2 FALL Radius (metres) & Capacity (tonnes)																			Max Rad.	WLL at Max Rad.
				7.5	10.0	15.0	20.0	25.0	30.0	35.0	40.0	42.5	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0	
(m)	(m)	(m)	(T)																				(m)	(T)
73.4	**-**	6.6	15.0	15.0	14.9	14.0	12.5	11.3	10.2	9.3	8.5	7.9	7.1	6.4	5.8	5.2	4.7	4.3	3.8	3.5	3.1	2.8	2.6	71.8	2.4
68.8	**-**	6.3	23.0	22.4	21.1	19.3	17.2	15.6	14.2	11.4	9.2	8.3	7.5	6.8	6.2	5.6	5.1	4.7	4.3	3.9	3.6	-	-	67.4	3.3
64.2	**-**	6.0	27.0	26.7	25.6	23.4	21.1	18.9	14.9	12.0	9.8	8.9	8.1	7.4	6.7	6.2	5.7	5.2	4.8	4.5	-	-	-	62.9	4.4
59.6	**8.4**	5.6	32.0	32.0	31.1	28.3	25.7	19.5	15.4	12.4	10.2	9.3	8.5	7.8	7.2	6.6	6.1	5.7	-	-	-	-	-	58.5	5.5
55.0	**17.0**	5.3	32.0	32.0	32.0	32.0	26.4	20.1	16.0	13.0	10.8	9.9	9.1	8.4	7.7	7.2	-	-	-	-	-	-	-	54.1	6.9
50.4	**17.3**	5.0	32.0	32.0	32.0	32.0	27.0	20.7	16.5	13.5	11.2	10.3	9.5	8.8	-	-	-	-	-	-	-	-	-	49.6	8.3
45.8	**17.6**	4.7	32.0	32.0	32.0	32.0	27.7	21.3	17.0	14.0	11.8	10.9	10.1	-	-	-	-	-	-	-	-	-	-	45.2	10.0
41.2	**17.9**	4.4	32.0	32.0	32.0	32.0	28.3	21.8	17.5	14.5	12.2	-	-	-	-	-	-	-	-	-	-	-	-	40.7	12.0
36.6	**18.2**	4.0	32.0	32.0	32.0	32.0	28.9	22.3	18.1	15.0	-	-	-	-	-	-	-	-	-	-	-	-	-	36.3	14.4
32.0	**18.6**	3.7	32.0	32.0	32.0	32.0	29.5	22.9	18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.8	17.3

HOIST SPEED



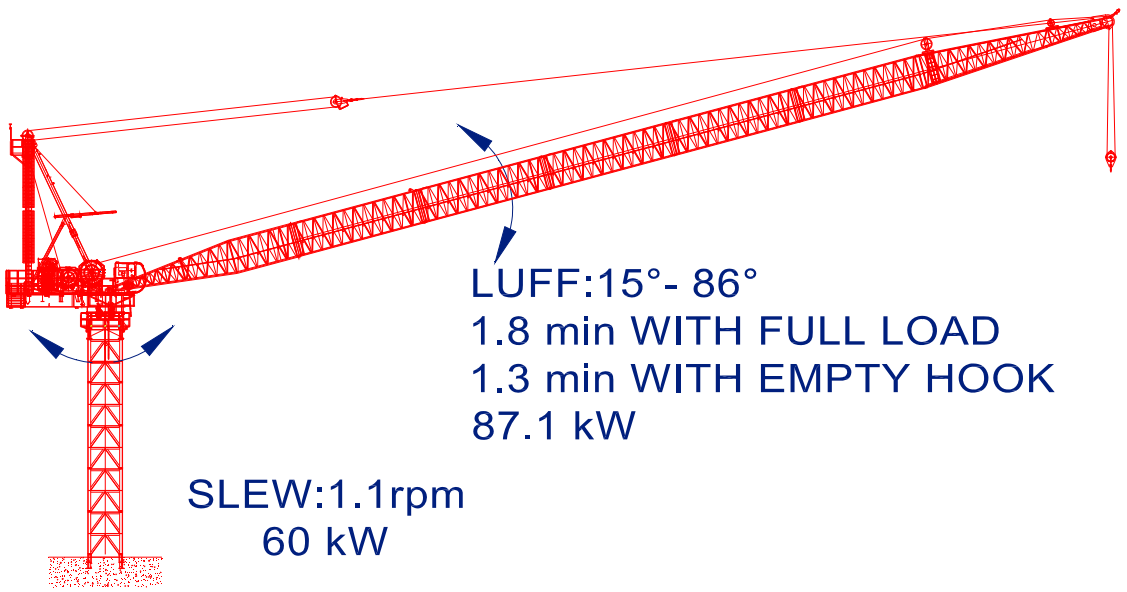
1 FALL (25T Winch)	LOAD (T)	SPEED (m/min)
	4.3	203.7
	8.0	120.3
	10.0	98.4
	15.0	67.7
	20.0	51.5
	25.0	41.6

1 FALL (16T Winch)	LOAD (T)	SPEED (m/min)
	2.1	196.5
	4.0	117.1
	8.0	63.9
	10.0	52.1
	13.0	40.7
	16.0	33.5

2 FALL (25T Winch)	LOAD (T)	SPEED (m/min)
	8.5	101.8
	10.0	89.1
	15.0	62.9
	20.0	48.6
	25.0	39.6
	32.0	31.5

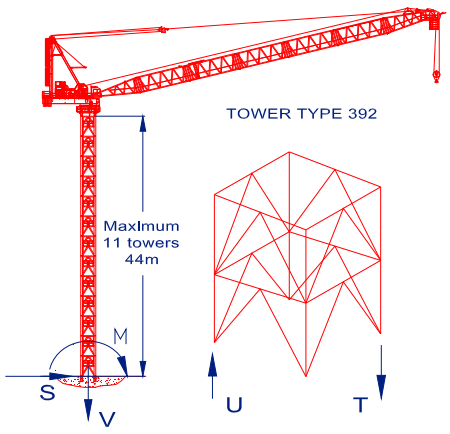
2 FALL (16T Winch)	LOAD (T)	SPEED (m/min)
	3.2	98.3
	10.0	44.4
	15.0	31.7
	20.0	24.7
	25.0	20.2
	32.0	16.4

LUFF&SLEW SPEEDS



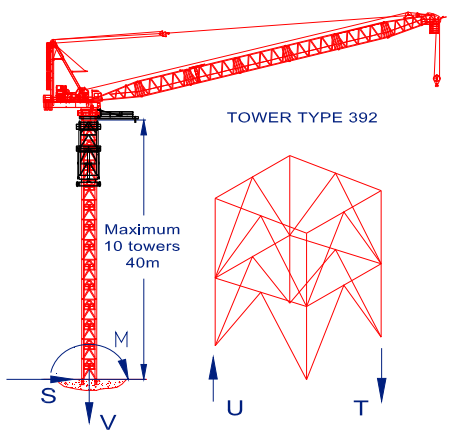
M390D GENERAL DIMENSIONS WITH 392 TOWERS (TYPICAL CASES AT 73.4M BOOM LENGTH)

CRANE FREE-STANDING WITHOUT EXTERNAL CLIMBER



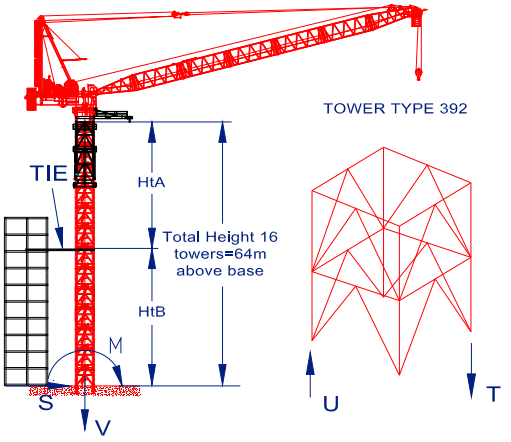
BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	11	11	-
M	801	1298	mT
V	166	156	T
S	7	31	T
T	313	478	T
U	230	400	T
Ht_{Total}	44	44	m

CRANE FREE-STANDING WITH EXTERNAL CLIMBER



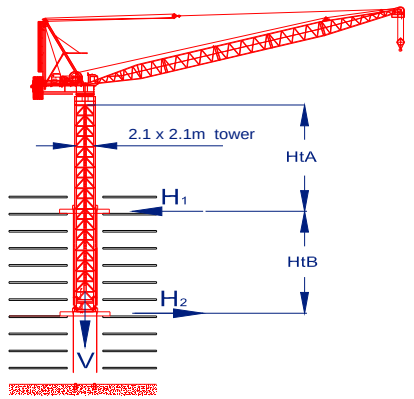
BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	10	10	-
M	802	1306	mT
V	177	166	T
S	8	34	T
T	315	483	T
U	227	400	T
Ht_{Total}	40	40	m

WITH CLIMBER- ONE TIE ABOVE THE BASE



BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	16	16	-
TIE	53	108	T
M	392	618	mT
V	212	202	T
S	44	67	T
T	186	259	T
U	80	159	T
Ht_A	30	30	m
Ht_B	26	26	m
Ht_{Total}	64	64	m

INTERNAL CLIMBER ON COLLARS



BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	11	11	-
V	172	162	T
H_1	99	159	T
H_2	92	128	T
Ht_A	35.5	35.5	m
Ht_B	8	8	m

*:IN SERVICE WIND=20 m/s

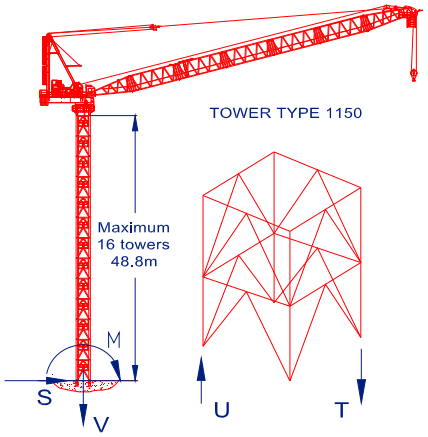
‡:OUT OF SERVICE WIND= 42 m/s

Notes:

1. Structure is designed using permissible stress method. These loads will vary by change of boom length, height and type of tower, actual site wind conditions, no of falls and change of wind speed.
2. To calculate alternative options for M390D refer to Favelle Favco Design Sheet named 'Crane Weight Wind Chart"

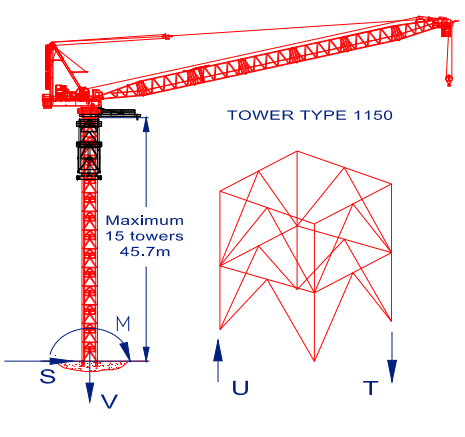
M390D GENERAL DIMENSIONS WITH 1150 TOWERS (TYPICAL CASES AT 73.4M BOOM LENGTH)

CRANE FREE-STANDING WITHOUT EXTERNAL CLIMBER



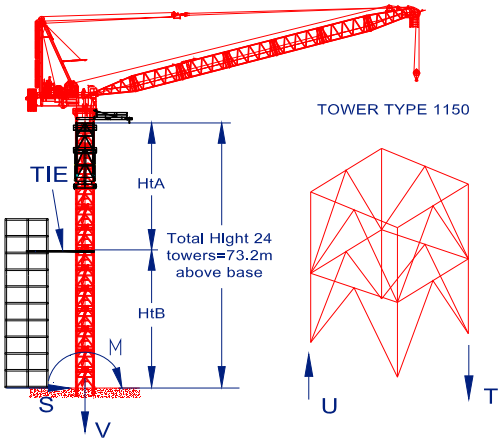
BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	16	16	-
M	838	1440	mT
V	161	150	T
S	7	32	T
T	305	493	T
U	225	418	T
Ht_{Total}	48.8	48.8	m

CRANE FREE-STANDING WITH EXTERNAL CLIMBER



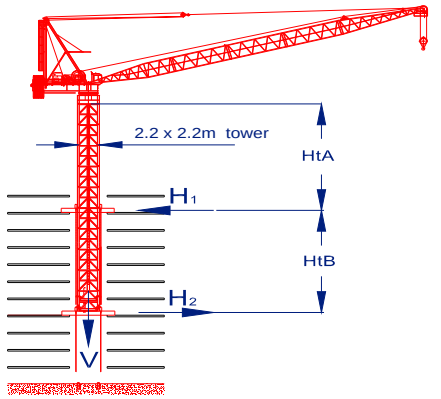
BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	15	15	-
M	841	1458	mT
V	167	157	T
S	8	34	T
T	308	500	T
U	224	422	T
Ht_{Total}	45.7	45.7	m

WITH CLIMBER- ONE TIE ABOVE THE BASE



BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	24	24	-
TIE	42	89	T
M	397	604	mT
V	197	186	T
S	33	47	T
T	175	239	T
U	76	146	T
Ht_A	38.2	38.2	m
Ht_B	35	35	m
Ht_{Total}	73.2	73.2	m

INTERNAL CLIMBER ON COLLARS



BUILDING REACTION			
Design Load	I/S*	O/S‡	Unit
NO. of Towers	16	16	-
V	167	156	T
H_1	77	132	T
H_2	70	100	T
Ht_A	37.6	37.6	m
Ht_B	10.7	10.7	m

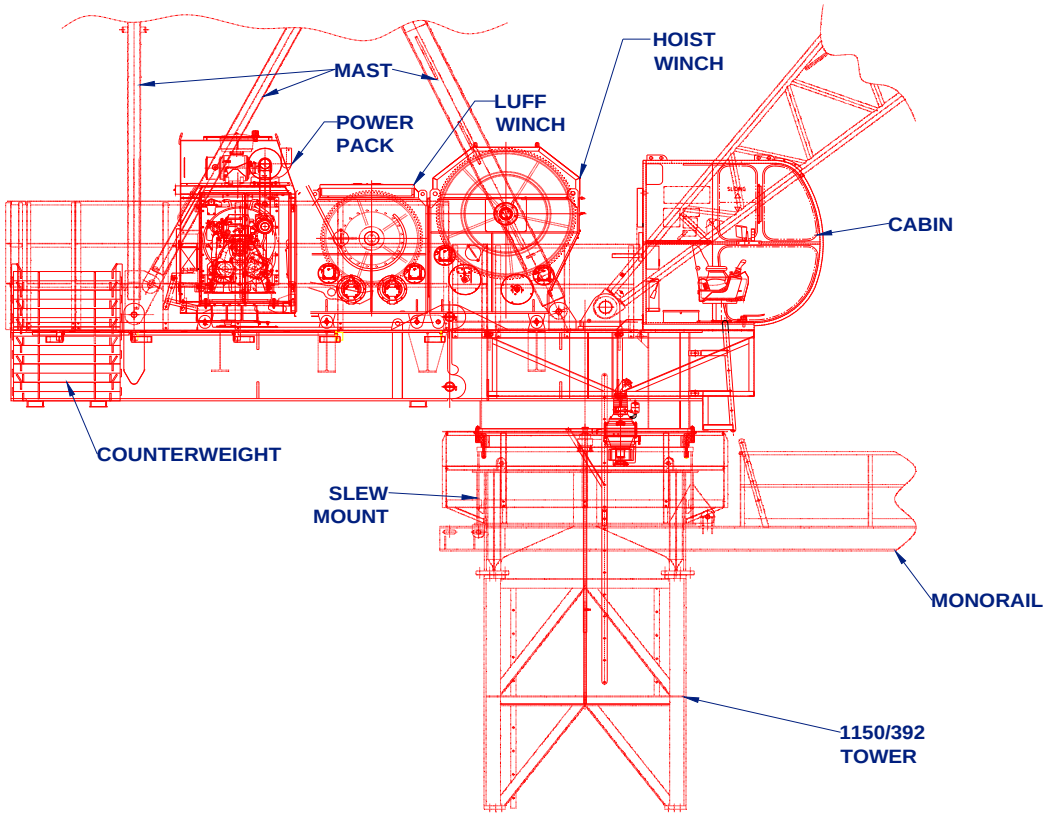
*:IN SERVICE WIND=20 m/s

‡:OUT OF SERVICE WIND= 42 m/s

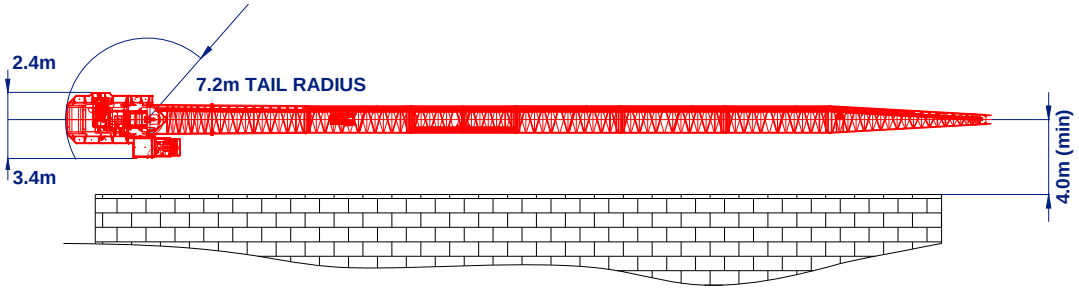
Notes:

1. Structure is designed using permissible stress method. These loads will vary by change of boom length, height and type of tower, actual site wind conditions, no of falls and change of wind speed.
2. To calculate alternative options for M390D refer to Favelle Favco Design Sheet named 'Crane Weight Wind Chart"

MACHINERY DECK ASSEMBLY



EXTERNAL CLIMBING INSTALLATION CLEARANCE

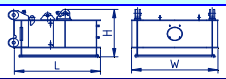
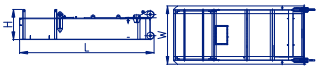
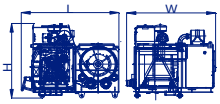
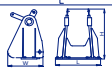
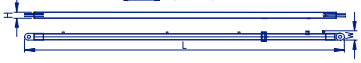
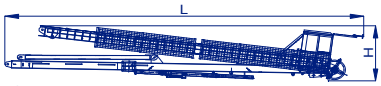
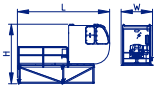
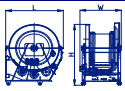
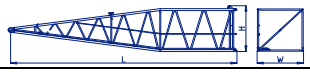
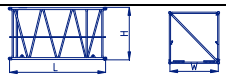
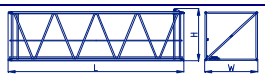
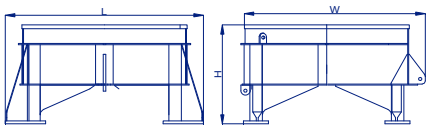
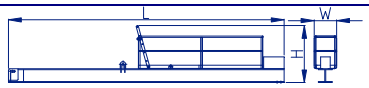
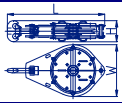
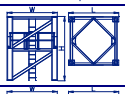
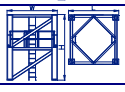


OUT OF SERVICE CONFIGURATION

Boom Length (m)	Minimum Weathervaning*	
	Radius (m)	Angle (°)
73.4	11.9	80.9
68.8	12.5	79.8
64.2	13.1	79.5
59.6	13.7	77.0
55.0	14.5	75.0
50.4	15.3	72.0
45.8	13.6	62.6
41.2	17.4	65.5
36.6	16.6	60.0
32.0	17.6	57.0

*: MINIMUM WEATHERVANING POSITION IS BASED ON A WIND SPEED OF 11 m/s OR BOOM FLOAT AT 42 m/s

M390D TRANSPORTATION & ERECTION

ITEM	QTY	DESCRIPTION		LENGTH **L** (mm)	HEIGHT **H** (mm)	WIDTH **W** (mm)	WEIGHT PER ITEM (kg)
1	1	SPLIT DECK-FRONT AND SLEW DRIVES (INCL. PLATFORMS, PINS & HANDRAILS)		3081	1335	2940	6030 (7497)
2	1	SPLIT DECK-REAR (INCL. PLATFORMS & HANDRAILS)		5670	1246	2940	6237 (7134)
3	1	POWERPACK AND LUFF WINCH (INC. OIL 900kg)		3222	2580	3260	7696
4	2	MAST FRONT LEG		11172	305	308	2225EA
	1	MAST HEAD		1070	1089	839	766
	2	MAST BACK LEG		10193	162	288	758 EA
	1	BUFFER		4446	240	2624	552
	1	MAST ASSEMBLY (INC. SHEAVES, HEAD PIN, LADDERS,BUFFER AND PLATFORMS)		11305	2300	3520	7247
5	1	CABIN & PLATFORM ASSEMBLY		4086	3138	1660	1298
6	1	MAIN HOIST WINCH ASSY (EMPTY DRUM) (600 m ROPE CAPACITY)		1910	2418	1712	8112
7	1	BOOM BOTTOM 13.7m (INC. WALKWAY&PINS)		13956	2436	2436	2503
8	1	BOOM TOP 13.7m (INC. DEFLECTOR, SHEAVES & PINS) (PENDANT & PLATFORM)		14295	3480	2436	1906
9	5	BOOM EXTENSION 4.6m		4716	2436	2436	752
10	5	BOOM EXTENSION 9.2m (BRIDLE PLATFORM 307 kg)		9316	2410	2410	1385 (1760)
11	1	BRIDLE		1680	1165	1165	811
12	1	SLEW MOUNT (INCL. PLATFORMS 850Kg)		2795	1160	2464	4543
	1	SLEW RING (INCL. BOLTS)		2627 DIA.	184		2443
		Total					7556
13	1	CLIMBER		14343	4435	4435	15912
14	1	MONORAIL		7430	1271	600	1768
15	7	COUNTER WEIGHT		2390	1680	1300	6051
16	1	HOOK - 2/1 FALL (32/16T)		1854	352	830	1125
17	1	TOWER SECTION 1150 (INC.LADDER,HAND RAIL,PLATFORM)		2464	3050	2464	3415
18	1	TOWER SECTION 392 (INC.LADDER,HAND RAIL,PLATFORM)		2411	4000	2411	5135
19	1	HOIST ROPE (32mm) @ 4.95 kg/m		600m			3089
20	1	LUFF ROPE (32mm) @ 4.87 kg/m		200m			1013
21	1	PENDANT ROPE (42mm) @ 2.30 kg/m		108m			258