



RT STANDARD SERIES TOWERS



broadcast | wireless | sports lighting | utility | wind | transportation

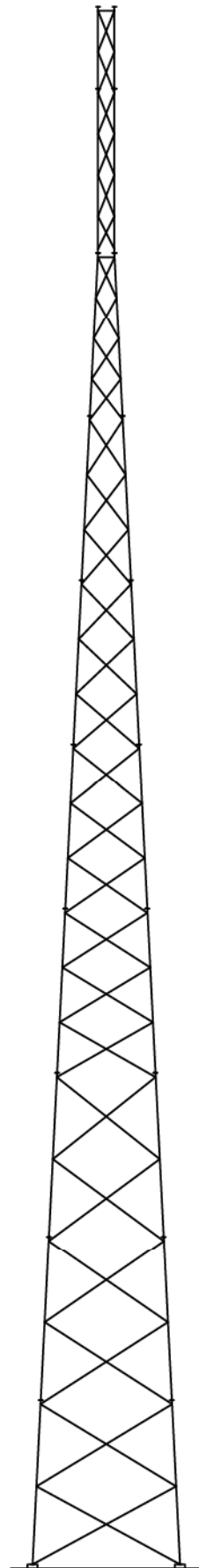
RT TOWERS

GENERAL USE

The ROHN Standard Series RT towers consist of three basic series; Light, Medium and Heavy. The standard tower series are designed for multiple uses including commercial, broadband, public safety and security applications and can be used for Risk Category I, II, III and IV structures. Use of ROHN Standard Series RT towers results in rapid deployments with significantly reduced shipping and installation schedules.

FEATURES

- Standard Series available in heights up to 190'
- High strength (50 ksi) legs, angle bracing and connection plates
- High strength structural bolts
- Round legs for easy mounting of antennas, mounts and other appurtenances
- Compatible with ROHN Standard accessories
- Hot-Dip Galvanized after fabrication
- Open cross section at ends of legs for complete galvanizing protection
- Knockdown bolted construction for efficient shipping, assembly and future upgrades
- Complete assembly drawings provided with the tower
- Standard and site-specific foundation designs available
- PE Certification available for standard or site-specific applications
- Custom tower designs available for heights up to 350'



ORDERING INFO

Anchor rod kits must be ordered separately. Options include a full tower base template with anchor rod clusters or an anchor rod cluster kit that includes the anchor rods and a top and bottom template for each tower leg.

1. Step bolts on one tower leg are provided for the full height of the tower. Safety climb systems must be ordered separately.
2. All accessories must be ordered separately including grounding kits, lightning rods, mounts, W/G ladders or brackets, etc.
3. ROHN Standard RT Series tower kits are supplied with pal nuts as nut-locking devices. Split-ring lock washers (L), anco nuts (A) and tri-loc nuts (T) are alternative nut locking devices that may be obtained by adding the indicated suffix to the standard RT tower kit part number. Example: RT140M-A for specifying the use of anco nuts.
4. Contact ROHN if assistance is needed in determining the adequacy of a specific RT tower kit for site-specific applications.

DESIGN NOTES

1. The ROHN Standard Light, Medium and Heavy Series RT towers are based on the wind, ice and earthquake requirements of the ANSI/TIA/222-G Standard.
2. The suitability of a ROHN standard RT tower kit and standard foundation for a specific application must be verified by the purchaser based on site-specific data in accordance with the ANSI/TIA-222-G Standard. All users are solely responsible for the installation, use, maintenance, inspection and other work and the compliance with all local, state and federal requirements.
3. The allowable Effective Projected Areas (EPA) tabulated represent the summation of the projected areas of all antennas, mounts, and accessories multiplied by appropriate drag factors and are assumed to be symmetrically mounted on the tower. Eccentric loading may increase member forces and may require a reduction of the tabulated EPA values.
4. The tabulated EPA values apply to towers installed at ground level. Lower EPA values than tabulated may apply for roof mounted towers or for towers located on sites with unusual terrain.
5. The EPA values are determined for ANSI/TIA-222 Topographic 1 tower site conditions (no abrupt changes in general topography) surrounded by Exposure C terrain (open unobstructed areas). For the Light Series towers, higher EPA values are provided for tower sites surrounded by Exposure B terrain (urban, suburban or wooded areas). Lower EPA values would apply for tower sites exposed to Exposure D terrain (open water or smooth unobstructed areas).

RT STANDARD TOWER DESIGN CRITERIA LIGHT, MEDIUM AND HEAVY SERIES ANSI/TIA-222-G

WIND LOADING CRITERIA												
EQUIVALENT 3-SECOND GUST WIND SPEEDS (MPH) BASED ON RISK CATEGORY OR STRUCTURE CLASS												
ULTIMATE WIND SPEED ASCE 7-10 & ASCE 7-16	85	90	95	100	105	110	115*	120	130	140	150	
EQUIVALENT ASCE 7-05 TIA-222-G 50-YEAR MRI WIND SPEEDS	CLASS I	72	76	81	85	89	93	97	102	110	119	127
	CLASS II	67	71	75	79	83	87	91*	95	103	111	119
	CLASS III	63	66	70	74	77	81	85	88	96	103	111
* EXAMPLE: FOR A 115 MPH ULTIMATE WIND SPEED, THE 50-YEAR MRI WIND SPEED FOR A CLASS II TOWER MUST NOT EXCEED 91 MPH												

ICE LOADING CRITERIA		
MAXIMUM RADIAL GLAZE ICE THICKNESS CONCURRENT WITH 40 MPH 3-SECOND GUST TABULATED EPA VALUES DOUBLED FOR THE ICE LOADING CONDITION TO ACCOUNT FOR THE ADDITIONAL EPA DUE TO ICE		
RISK CATEGORY OR STRUCTURE CLASS	ASCE 7-16 500-YR MRI	ASCE 7-10 TIA-222-G 50-YR MRI
I	N/A	N/A
III	2.00	1.00
III	1.60	0.80

EARTHQUAKE LOADING CRITERIA		
SS = SPECTRAL RESPONSE ACCELERATION PARAMETER AT SHORT PERIODS S1 = SPECTRAL RESPONSE ACCELERATION PARAMETER AT 1 SECOND PERIOD SITE CLASS D		
RISK CATEGORY OR STRUCTURE CLASS	MAX S _s	MAX S ₁
I	N/A	N/A
III	2.50	1.00
III	1.67	0.67

TOWER SERIES	LINEAR APPURTENANCE LOADING CRITERIA	DISCRETE APPURTENANCE LOADING CRITERIA
LIGHT	(6) 7/8 INCH LINES ATTACHED TO TOWER LEGS (1) 3/8 INCH SAFETY CABLE	500 LBS TOTAL WEIGHT WITHOUT ICE 1,000 LBS TOTAL WEIGHT WITH ICE
MEDIUM	(9) 7/8 INCH LINES ON A 9-HOLE WAVEGUIDE LADDER (1) 3/8 INCH SAFETY CABLE	1,500 LBS TOTAL WEIGHT WITHOUT ICE 3,000 LBS TOTAL WEIGHT WITH ICE
HEAVY	(12) 7/8 INCH LINES ON A 15-HOLE WAVEGUIDE LADDER (1) 3/8 INCH SAFETY CABLE	3,000 LBS TOTAL WEIGHT WITHOUT ICE 6,000 LBS TOTAL WEIGHT WITH ICE

RT STANDARD SERIES TOWER DESIGN LOADING

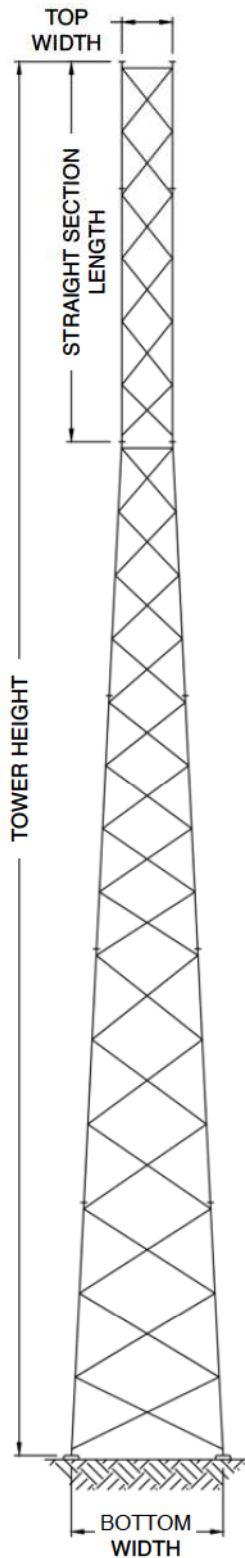
ANSI/TIA-222-G

TOWER HEIGHT (FT)	TOWER KIT P/N	ALLOWABLE EFFECTIVE PROJECTED AREA (FT) ²											
		ULTIMATE WIND SPEED WITHOUT ICE (MPH)											
		EXPOSURE	85	90	95	100	105	110	115	120	130	140	150
190	RT190L	C	93	72	54	32	13	-	-	-	-	-	-
		B	138	112	90	71	55	40	22	6	-	-	-
	RT190M	C	186	160	137	118	101	86	74	53	7	-	-
	RT190H	C	250	250	248	222	200	176	150	118	66	24	-
180	RT180L	C	70	51	34	19	-	-	-	-	-	-	-
		B	113	90	69	52	37	24	11	-	-	-	-
	RT180M	C	188	162	142	125	109	93	76	61	20	-	-
	RT180H	C	250	250	237	211	189	169	147	128	79	35	-
170	RT170L	C	74	53	34	19	5	-	-	-	-	-	-
		B	123	97	74	55	39	24	12	-	-	-	-
	RT170M	C	192	165	142	122	105	91	72	48	9	-	-
	RT170H	C	250	250	250	228	205	182	157	128	75	33	-
160	RT160L	C	76	56	39	25	12	-	-	-	-	-	-
		B	122	98	77	59	43	30	18	8	-	-	-
	RT160M	C	193	168	147	129	113	98	81	58	20	-	-
	RT160H	C	250	250	244	217	194	175	157	141	89	45	-
150	RT150L	C	81	59	40	24	10	-	-	-	-	-	-
		B	135	107	84	64	47	32	19	8	-	-	-
	RT150M	C	199	171	147	126	104	85	68	50	19	-	-
	RT150H	C	250	250	250	234	211	180	153	129	80	43	9
140	RT140L	C	83	62	45	30	17	6	-	-	-	-	-
		B	133	108	86	67	51	37	25	15	-	-	-
	RT140M	C	200	174	152	134	113	90	70	52	23	-	-
	RT140H	C	250	250	250	224	201	178	153	129	84	49	20
130	RT130L	C	90	67	47	31	17	5	-	-	-	-	-
		B	147	118	94	74	56	41	27	15	-	-	-
	RT130M	C	200	179	154	133	115	100	78	59	27	-	-
	RT130H	C	250	250	243	215	191	171	152	137	95	56	25
120	RT120L	C	91	69	52	36	23	12	-	-	-	-	-
		B	146	119	96	77	60	46	33	22	-	-	-
	RT120M	C	168	145	126	109	94	82	68	55	33	10	-
	RT120H	C	250	250	250	233	208	187	158	131	86	51	22
110	RT110L	C	121	98	78	61	46	33	22	12	-	-	-
		B	150	150	128	106	88	71	57	45	24	-	-
	RT110M	C	200	187	162	140	121	101	83	67	42	22	-
	RT110H	C	250	250	250	223	199	178	160	142	112	79	44
100	RT100L	C	116	94	76	60	47	35	25	16	-	-	-
		B	150	147	123	103	86	71	57	46	27	-	-
	RT100M	C	173	150	130	113	98	85	74	61	39	21	-
	RT100H	C	250	250	239	211	187	167	148	133	106	79	48

The tabulated allowable effective projected areas (EPA) are limited to maximum recommended values of 150, 200 and 250 ft² for the Light (L), Medium (M) and Heavy(H) series tower kits respectively. EPA values shown as "-" indicate tower kit is not recommended for the corresponding wind speed. A site-specific engineering analysis is required for higher EPA or wind speed values.

RT STANDARD SERIES TOWERS

TRIANGULAR CROSS SECTIONS



ELEVATION VIEW

N.T.S

TOWER HEIGHT (FT)	TOWER KIT P/N	TOP NOMINAL WIDTH	BOTTOM NOMINAL WIDTH	STRAIGHT SECTION LENGTH
190	RT190L	2'-9"	18'-10"	30'
	RT190M	2'-9"	18'-11"	30'
	RT190H	4'-9"	20'-11"	30'
180	RT180L	2'-9"	16'-10"	40'
	RT180M	2'-9"	16'-11"	40'
	RT180H	4'-9"	18'-11"	40'
170	RT170L	2'-9"	16'-10"	30'
	RT170M	2'-9"	16'-10"	30'
	RT170H	4'-9"	18'-11"	30'
160	RT160L	2'-9"	14'-10"	40'
	RT160M	2'-9"	14'-10"	40'
	RT160H	4'-9"	16'-11"	40'
150	RT150L	2'-9"	14'-10"	30'
	RT150M	2'-9"	14'-10"	30'
	RT150H	4'-9"	16'-11"	30'
140	RT140L	2'-9"	12'-10"	40'
	RT140M	2'-9"	12'-10"	40'
	RT140H	4'-9"	14'-11"	40'
130	RT130L	2'-9"	12'-9"	30'
	RT130M	2'-9"	12'-10"	30'
	RT130H	4'-9"	14'-10"	30'
120	RT120L	2'-9"	10'-9"	40'
	RT120M	2'-9"	10'-10"	40'
	RT120H	4'-9"	12'-10"	40'
110	RT110L	2'-9"	10'-9"	30'
	RT110M	2'-9"	10'-10"	30'
	RT110H	4'-9"	12'-10"	30'
100	RT100L	2'-9"	8'-9"	40'
	RT100M	2'-9"	8'-10"	40'
	RT100H	4'-9"	10'-10"	40'

Legs: High Strength Structural Tubing, Grade 50

Bracing: High Strength Angles, Grade 50

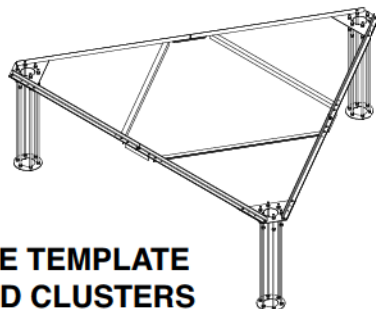
Bolts: Structural Bolts, 120 ksi Tensile Strength

Galvanizing: Per ANSI/TIA-222-G

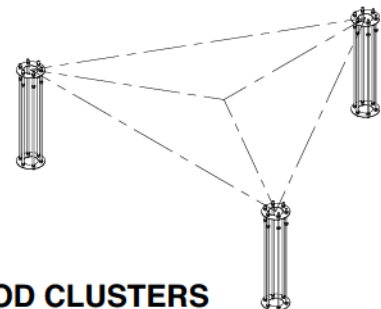
RT STANDARD SERIES FOUNDATIONS

TOWER HEIGHT (FT)	TOWER KIT P/N	ANCHOR ROD KIT P/N'S		FOUNDATION TYPE		
		FULL TOWER BASE TEMPLATE WITH ANCHOR ROD CLUSTERS	KIT WITH 3 ANCHOR ROD CLUSTERS	PIER	MAT	CAISSON
190	RT190L	18D1887RTFST	18D1887RT	P2	M6	C2
	RT190M	18H1894RTFST	18H1894RT	P5	M9	C8
	RT190H	18H2094RTFST	18H2094RT	P7	M10	C11
180	RT180L	15D1683RTFST	15D1683RT	P2	M5	C2
	RT180M	18H1694RTFST	18H1694RT	P5	M8	C8
	RT180H	18H1894RTFST	18H1894RT	P7	M9	C11
170	RT170L	15D1683RTFST	15D1683RT	P2	M5	C2
	RT170M	18D1687RTFST	18D1687RT	P4	M5	C6
	RT170H	18H1894RTFST	18H1894RT	P6	M9	C10
160	RT160L	12D1479RTFST	12D1479RT	P2	M4	C2
	RT160M	18D1487RTFST	18D1487RT	P4	M4	C6
	RT160H	18H1694RTFST	18H1694RT	P6	M8	C9
150	RT150L	12D1479RTFST	12D1479RT	P1	M4	C1
	RT150M	18D1487RTFST	18D1487RT	P3	M4	C4
	RT150H	18H1694RTFST	18H1694RT	P6	M8	C8
140	RT140L	12D1279RTFST	12D1279RT	P1	M3	C1
	RT140M	18D1287RTFST	18D1287RT	P3	M3	C4
	RT140H	18H1494RTFST	18H1494RT	P5	M7	C7
130	RT130L	12B1275RTFST	12B1275RT	P1	M3	C1
	RT130M	15D1283RTFST	15D1283RT	P3	M3	C3
	RT130H	18D1487RTFST	18D1487RT	P4	M4	C6
120	RT120L	12B1075RTFST	12B1075RT	N/A	M2	C1
	RT120M	15D1083RTFST	15D1083RT	N/A	M2	C3
	RT120H	18D1287RTFST	18D1287RT	P3	M3	C6
110	RT110L	12B1075RTFST	12B1075RT	N/A	M2	C1
	RT110M	15D1083RTFST	15D1083RT	N/A	M2	C3
	RT110H	18D1287RTFST	18D1287RT	P3	M3	C5
100	RT100L	12B0875RTFST	12B0875RT	N/A	M1	C1
	RT100M	12D0879RTFST	12D0879RT	N/A	M1	C3
	RT100H	18D1087RTFST	18D1087RT	N/A	M2	C5

ANCHOR ROD KITS MUST BE ORDERED SEPARATELY. ONLY ONE ANCHOR ROD KIT P/N IS REQUIRED.
N/A UNDER FOUNDATION TYPE INDICATES THAT THE FOUNDATION TYPE IS NOT COMPATIBLE WITH THE TOWER.

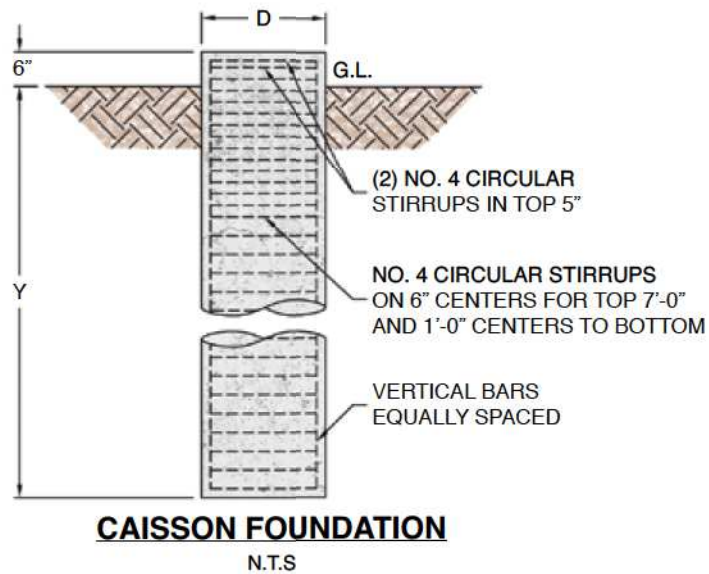
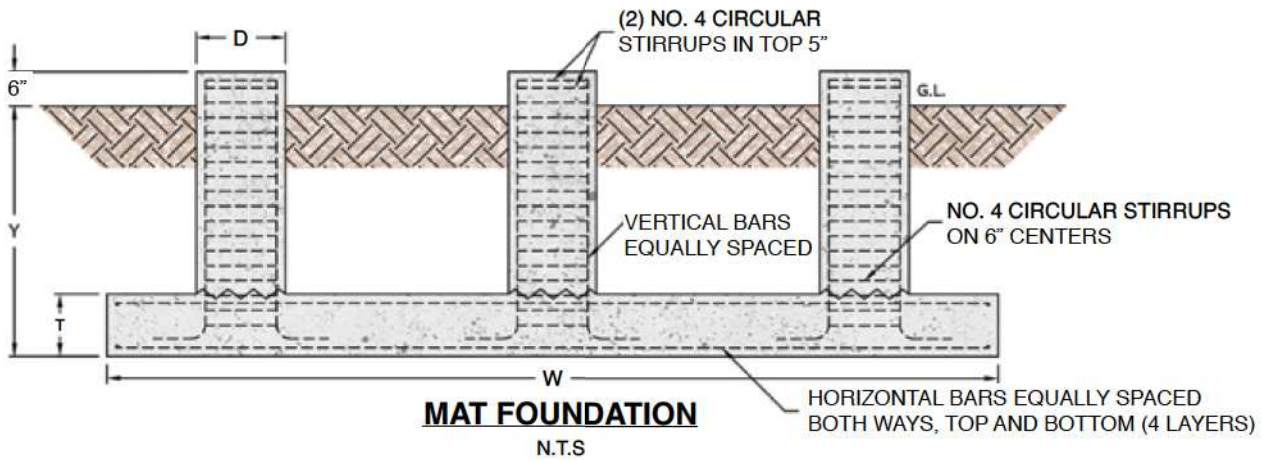
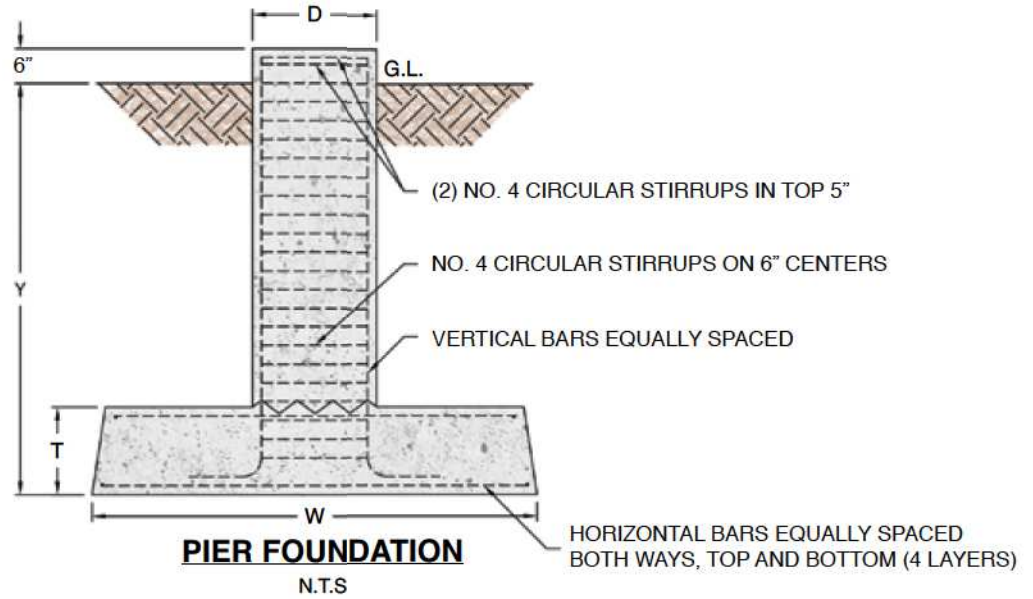


FULL TOWER BASE TEMPLATE WITH ANCHOR ROD CLUSTERS



ANCHOR ROD CLUSTERS

RT STANDARD SERIES FOUNDATIONS



RT STANDARD SERIES FOUNDATIONS

PIER & PAD FOUNDATIONS							
ID	P1	P2	P3	P4	P5	P6	P7
D	2'-6"	2'-6"	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"
Y	6'-0"	8'-0"	8'-0"	10'-0"	10'-0"	10'-0"	12'-0"
W	6'-0"	6'-0"	8'-0"	8'-0"	8'-0"	10'-0"	10'-0"
T	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"
VERT BARS IN PIERS	8-#7	8-#7	8-#7	10-#7	12-#7	12-#8	12-#8
HORZ BARS IN EA. LAYER	8-#7	8-#7	10-#7	10-#7	10-#7	12-#7	12-#7
CONCRETE VOLUME	10.5	11.5	17.8	18.9	20.9	28.9	30.5

Concrete volume (cu-yds) is for 3 piers

MAT W/ RAISED PIER FOUNDATIONS										
ID	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
D	2'-6"	2'-6"	2'-6"	2'-6"	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"
Y	5'-0"	5'-0"	5'-0"	5'-0"	5'-0"	5'-0"	5'-6"	5'-6"	5'-6"	5'-6"
W	14'-0"	16'-0"	18'-0"	20'-0"	22'-0"	24'-0"	20'-0"	22'-0"	24'-0"	26'-0"
T	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
OFFSET, FT	1	1	1	1.25	1.5	1.5	1.25	1.5	1.5	1.75
VERT BARS IN PIERS	8-#7	8-#7	8-#7	8-#7	8-#7	8-#7	10-#7	10-#7	12-#7	12-#7
HORZ BARS IN EA LAYER	12-#6	12-#6	14-#6	16-#6	18-#6	18-#6	16-#6	18-#6	26-#6	26-#6
CONCRETE VOLUME	13.1	16.4	20.2	24.4	29.1	34.2	25.8	30.4	35.5	41.1

Concrete volume (cu-yds) is for mat and 3 piers

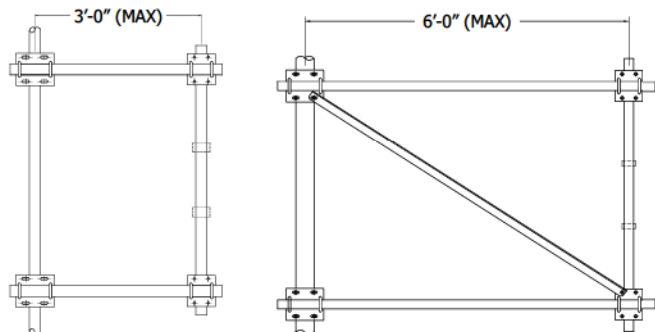
CAISSON FOUNDATIONS											
ID	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
D	2'-6"	2'-6"	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"	3'-6"	3'-6"	4'-0"	4'-0"
Y	16'-0"	24'-0"	30'-0"	36'-0"	30'-0"	34'-0"	38'-0"	32'-0"	36'-0"	32'-0"	38'-0"
VERT BARS	8-#7	8-#7	8-#7	10-#7	10-#7	12-#7	12-#7	12-#7	14-#7	16-#7	16-#7
CONCRETE VOLUME	9.0	13.5	16.5	19.8	24.0	27.0	30.3	34.8	39.0	45.3	53.7

Concrete volume (cu-yds) is for 3 caissons

NOTES

1. Reduced foundation concrete volume and steel reinforcing may be possible when site-specific geotechnical data is available. Standard foundation designs are based on ANSI/TIA-222-G presumptive clay soil parameters which may be conservative for many site locations. Larger foundations may be required for unusually weak site-specific soil conditions. Contact ROHN for site-specific foundation designs when geotechnical data is available for a site.
2. Foundation details are provided for illustration purposes only and are not for construction. Complete foundation details, anchor rod layout details and foundation specifications are provided with the assembly drawings for each tower.
3. The purchaser must verify the suitability of a standard foundation design based on actual site conditions including the strength of soil, sloping grade, frost penetration and the potential for expansive or corrosive soil, etc. Foundation design modifications may be required based on site-specific conditions.
4. A site-specific investigation is required for Structure Class III towers per ANSI/TIA-222-G.

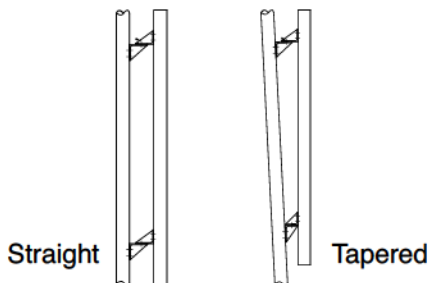
3' AND 6' SIDE ARMS, STRAIGHT/TAPERED TOWER SECTIONS



UNIVERSAL KITS

3' Side Arm	6' Side Arm	Tower Leg O.D.
SA324A	SA624A	2.38" - 4.50"
SA356A	SA656A	5.56" - 6.63"

LEG DISH MOUNTS



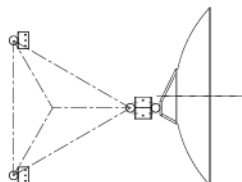
Straight Leg

Part No.	Description
S24HUM	Fits leg sizes 2.38" O.D. - 4.50" O.D.
T56HUM	Fits leg sizes 5.50" O.D. - 6.63" O.D.

Tapered Leg

Part No.	Description
T24HUM	Fits leg sizes 2.38" O.D. - 4.50" O.D.
T56HUM	Fits leg sizes 5.50" O.D. - 6.63" O.D.

LEG TIE-BACK PLATE KIT



Kits include (1) clip with u-bolts. Some dishes require (2) tie-backs.

Part No.	Leg O.D.
VY1949A	2.38"
VY1950A	2.88"
VY1951A	3.50"
VY1952A	4.00"
VY1953A	4.50"
VY1954A	5.50"
VY1955A	6.63"

CABLE SAFETY CLIMB SYSTEM

Climbing Harnesses

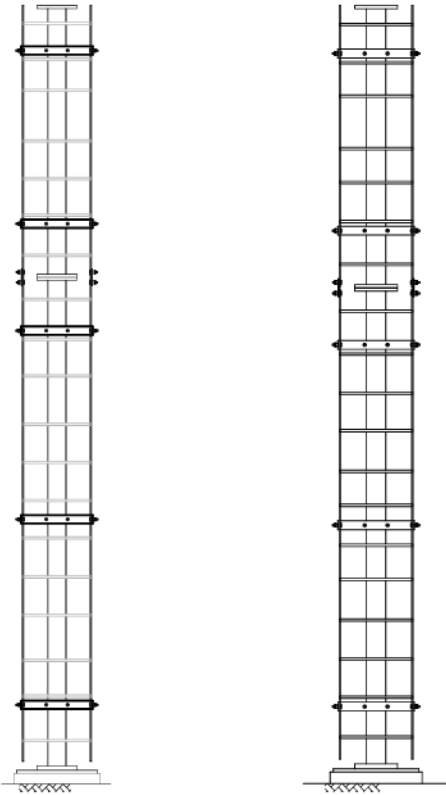


Safety Cable Slider with Carabineer



Description	Part Number
4-D Ring Climbing Harness	TTFBH-4D
Professional Harness	TTFBH-C/P
Safety Cable Slider	TT-WG-500-W/SMC
Leg Mounted Safety Climb System	TT-200-URCL-08-5-400

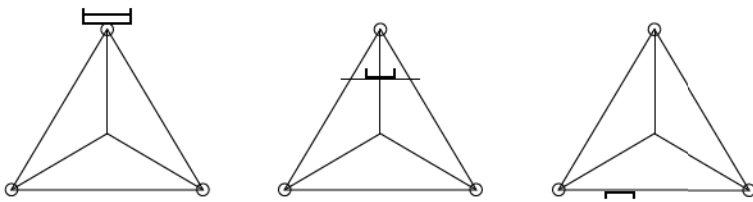
CLIMBING LADDERS



STANDARD LADDER

HEAVY DUTY LADDER

CONFIGURATIONS

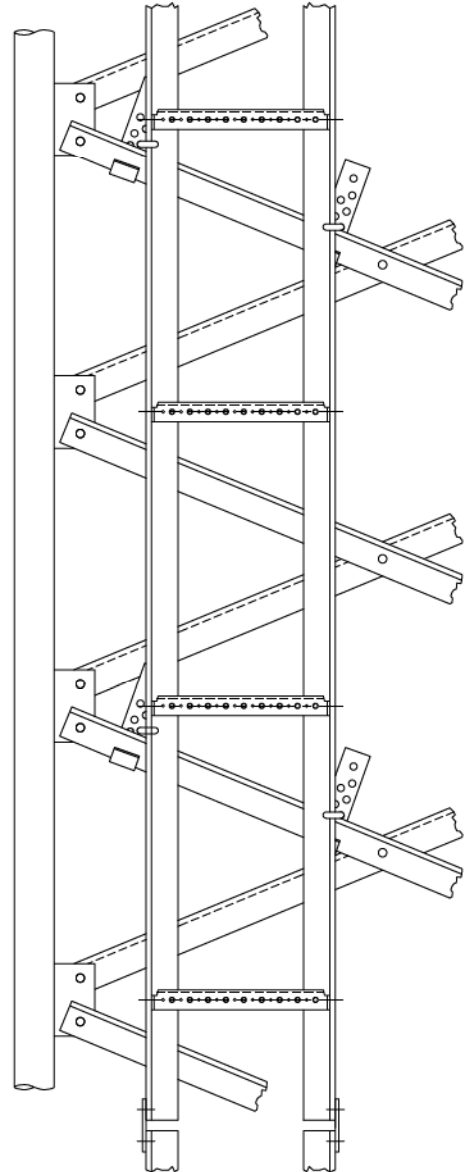


Leg Mounted

Inside Corner Mounted

Face Mounted

WAVEGUIDE LADDER



Mounting options vary by tower section. Contact ROHN for parts to be used.

Inside corner option is only available for the Heavy RT Standard Series Tower.

ROHN offers additional accessories for the RT Standard Series Towers. Contact ROHN for specific parts or find options in the ROHN Tower & Site Accessories section of the catalog. www.rohntower.com

Face Dish Mounts
Tie Back Assemblies
Leg Mounting Frames



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