



VHF and UHF Helical Antennas

Circularly Polarized Antennas

The TACO circularly polarized helical antennas are extremely rugged and designed to operate under the severest of environmental conditions.

The mast and ground plane are of aluminum construction with the helix supported by dielectric rods along the mast. The ground plane of the 108-315 MHz models is constructed with the ground plane backed with reinforcing ribs into which tubular axial rods are placed to increase the diameter of the ground plane



Sectional Antenna Option

TACO's sectional helical is derived from the standard helical line for applications demanding a high degree of transportability and may be used singly or in multiple arrays. The antenna consists of a hinged, folding ground-plane and multiple helix elements which can be assembled quickly.

- Most models available in sectional construction.
- Please contact sales.

TACO Antenna's ongoing policy of continuing development may result in specification changes to its products.

US AND INTERNATIONAL SALES AGENT

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Helical Antenna Specifications



ELECTRICAL:

MODEL(S)	H-062	H-082	H-084	H-064A	H-084A	H-104	H-124	H-065	H-085	H-105
Frequency Range (MHz)	120-150	120-150	240-320	225-400	225-400	240-320	240-320	300-520	300-520	300-520
Gain (dBic)	12.5	13.8	13.8	12.5	13.8	14.8	16	12.5	13.8	14.8
Axial Ratio (Helical Only)	1.17	1.13	1.13	1.17	1.13	1.1	1.08	1.17	1.13	1.1
Impedance	50	50	50	50	50	50	50	50	50	50
Polarization	Circular	Circular	Circular	Circular	Circular	Circular	Circular	Circular	Circular	Circular
Cross Pol. Rejection	20dB	20dB	20dB	20dB	20dB	20dB	20dB	20dB	20dB	20dB
Back to Front Ratio	23dB	24dB	24dB	23dB	24dB	25dB	26dB	23dB	24dB	25dB
VSWR:										
Max	1.4	1.4	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5
Typical	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.3	1.3	1.3
HPBW:										
Horz.	45	40	40	45	40	35	33	45	40	35
Vert.	43	38	38	43	38	34	31	43	38	34
1st Sidelobe Suppression	11dB	12dB	12dB	11dB	12dB	13dB	14dB	11dB	12dB	13dB
* Std. Connector	N	N	N	N	N	N	N	N	N	N
Max. Input Power	500W	500W	500W	500W	500W	500W	500W	500W	500W	500W
Operating Temperature (°C)	-40 to +70	-40 to +70	-40 to +70	-40 to +70	-40 to +70	-40 to +70	-40 to +70	-40 to +70	-40 to +70	-40 to +70
Operating Temperature (°F)	-40 to +158	-40 to +158	-40 to +158	-40 to +158	-40 to +158	-40 to +158	-40 to +158	-40 to +158	-40 to +158	-40 to +158

* HN Connector 1,000 watts, LC Connector 2,000 watts also available.

MECHANICAL:

MODEL(S)	H-062	H-082	H-084	H-064A	H-084A	H-104	H-124	H-065	H-085	H-105
Number of Outputs	1	1	1	1	1	1	1	1	1	1
Number of Elem. (Turns)	6	8	8	6	8	10	12	6	8	10
Overall Length (in.)	155	190	112	84	103	134	155	68	84	97
Helical Diameter (in.)	27.43	27.43	13.43	11.85	11.85	13.43	13.43	9.0	9.0	9.0
Ground Plane Diameter (in.)	72	72	57	35	35	57	57	36	36	36
Mounting Stub Length (in.)	23	23	23	23	23	23	23	23	22	23
Stub Diameter (in.)	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87
Antenna Weight	73lbs.	82lbs.	39lbs.	24lbs.	38lbs.	44lbs.	49lbs.	25lbs.	29lbs.	33lbs.
* Total Shipping weight	250lbs.	330lbs.	164lbs.	124lbs.	146lbs.	199lbs.	235lbs.	94lbs.	114lbs.	134lbs.
Mounting Options										
Type	Mast/Tripod	Mast/Tripod	Mast/Tripod	Mast/Tripod	Mast/Tripod	Mast/Tripod	Mast/Tripod	Mast/Tripod	Mast/Tripod	Mast/Tripod
Az. Adjust	360deg.	360deg.	360deg.	360deg.	360deg.	360deg.	360deg.	360deg.	360deg.	360deg.
El. Adjust	90deg.	90deg.	90deg.	90deg.	90deg.	90deg.	90deg.	90deg.	90deg.	90deg.

* Weights are approximate values

WIND LOADING:

MODEL(S)	H-062	H-082	H-084	H-064A	H-084A	H-104	H-124	H-065	H-085	H-105
Wind Area:										
(No Ice)	4.9	6.53	2.5	2.05	2.17	3.13	3.75	1.07	1.43	1.79
(Sq. Ft.)										
(1/2" Radial Ice)	11.05	14.73	5.64	4.7	4.9	7.05	8.46	2.42	3.23	4.04
Wind Load										
* (No Ice)	932	1,643	344	221	259	530	755	73	128	199
(Ft.-Lbs.)										
** (1/2" Radial Ice)	606	1,068	223	145	169	344	491	48	83	129
Survival Rating:										
*** (No Ice)	143mph	140mph	239mph	280mph	275mph	191mph	159mph	513mph	388mph	311mph

* Wind Speed = 100 MPH at sea level with One Hundred Percent Humidity at Seventy Degrees Fahrenheit.

** Wind Speed = 50 MPH at sea level with One Hundred Percent Humidity at Zero Degrees Fahrenheit.

*** Maximum Wind Speed at sea level with One Hundred Percent Humidity at Seventy Degrees Fahrenheit. Safety Factor of 1.65 included.

Temperature, barometric pressure and humidity: to MIL-STD 210 and 210A.

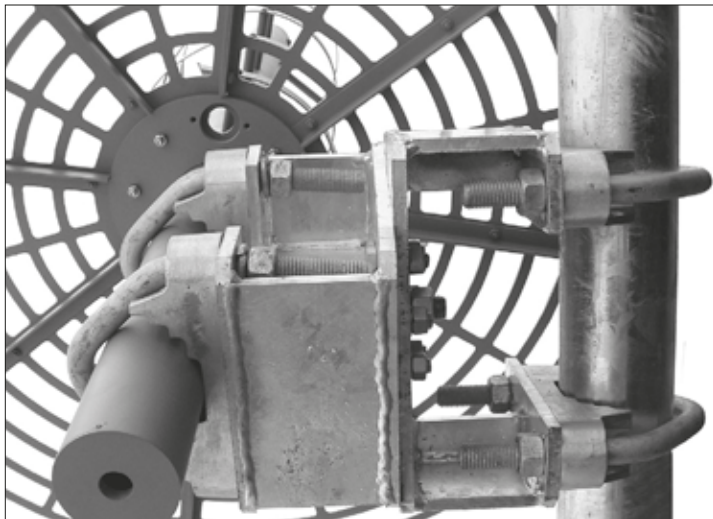
Rain, salt-fog, sand, dust and fungus: to MIL-STD 810A and 810B, Omni-directivity: +/-0.5dB

Helical Antenna Mounts

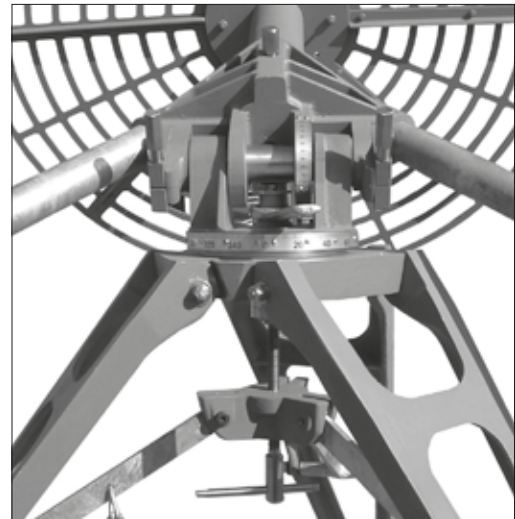
TACO has two mounting options for the Helical Antennas. The AM-1 Mount is designed to fasten the Helical antenna to a mast. The elevation adjustment is in fixed increments. Made from hot dip galvanized steel, the AM-1 is a rugged mast mount built to withstand the harsh elements. The HM-5 Tripod Mount is a versatile Tripod Mount with complete adjustment aligning your Helical Antenna to any azimuth or elevation angle. See the chart below for more details.

MECHANICAL MOUNTS SPECIFICATIONS:

MODEL(S)	TYPE	HEIGHT	POSITION AZ	EL	WEIGHT (NET)	ANTENNA MAST	MOUNTING PIPE
AM-1 Mounting	Mast	N/A	Fixed increments	± 90 15° 31.3 kg	49 lbs. (8.9 to 11.4 cm)	2.875" to 4.5" (7.3 to 11.4 cm)	2.875" to 4.5" (7.3 to 11.4 cm)
HM-5	Tripod (84 to 122 cm)	33" to 48"	360	- 5 to + 95 27.2 kg	60 lbs.	3" (7.6 cm)	N/A



AM-1



HM-5

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