

Cisco Symmetrical Horn Antenna (IW-ANT-H90-510-N)

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Overview

The Cisco Symmetrical Horn Antenna (IW-ANT-H90-510-N) offers unique RF performance in a compact package. The horn antenna has a symmetric main beam with identical beamwidth in vertical and horizontal planes.. Exceptionally small side lobes ensure remarkable interference suppression. These antennas are ideal for coverage of areas with clients close to the installation site, where null zone issues exist. High density AP clusters and radio co-location is made possible due to unique radiation patterns and compact size.

These antennas feature multiple improvements of RF performance and design, namely lighter body and significantly improved bracket. The antenna is equipped with N-female connectors.

The factory ships this antenna pre-assembled for a left-sided pole mounting configuration.

Figure 1: IW-ANT-H90-510-N Antenna



Technical Specifications

The following table is a summary of the technical specifications:

Radio Connection	2x N Female Bulkhead Connector
Antenna Type	Horn
Materials	UV Resistant ABS + PMMA, Aluminium, Zinc Alloy, Stainless Steel
Environmental	IP55
Flame Rating	UL 94 HB
Pole Mounting Diameter	40–80 mm (1.6–3.1 inch) Recommended as close to 80 mm (3.1 inch) as possible
Temperature	-30°C to +55°C (-22°F to +131°F)
Wind Survival	160 km/h (100 mi/h)
Wind Load	18/11 N - Front/Side at 160 km/h (100 mi/h)
Effective Projected Area	149/94 cm^2 - Front/Side (23.1/14.6 in^2)
Mechanical Tilt	± 25°
Weight	2.28 kg / 5 lbs

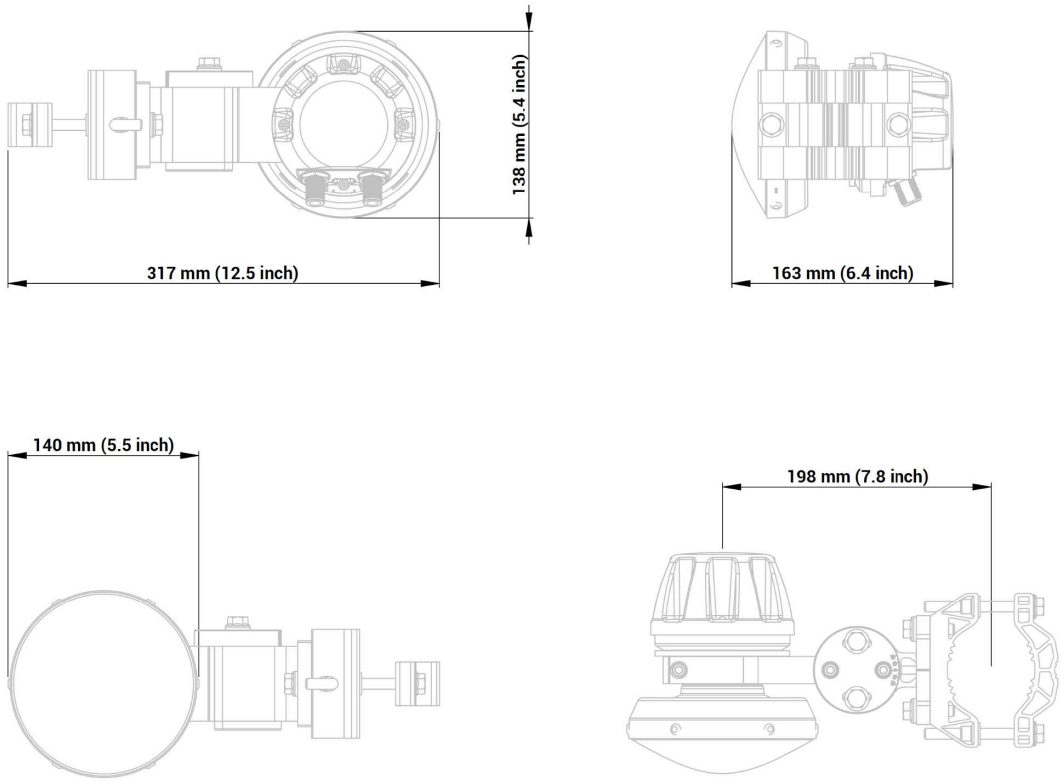
Performance Specifications

The following table is a summary of the performance specifications:

Frequency Range	4900—7150 MHz
Gain	10 dBi
Azimuth/Elevation BW -3 dB	H 65° / V 65°
Azimuth/Elevation BW -6 dB	H 85° / V 85°
Front-to-Back Ratio	28 dB
VSWR Max	1.5
Beam Efficiency	99.8% **Note** Beam efficiency defined up to first null
Polarization	Dual Linear H + V
Impedance	50 Ohm

Mechanical Drawing

The following diagram provides mechanical details of the antenna.



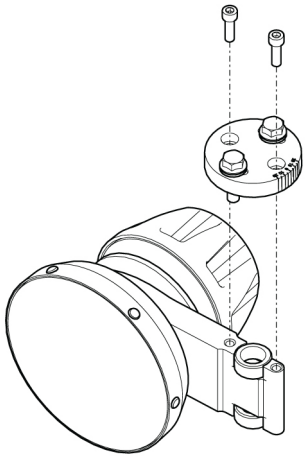
Installation Instructions

Before you begin

- 13 mm socket wrench
- 10 mm socket wrench
- 5 mm hex key
- Pole diameters between 40 mm and 80 mm (1.6 to 3.1 inches)

Procedure

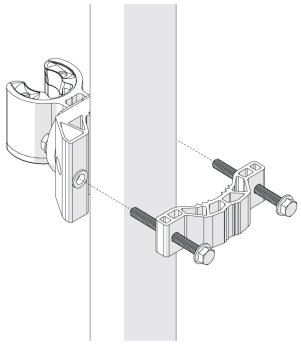
Step 1 Assemble the Bracket Ring



a. Place the Bracket Ring onto the mounting arm at the rear of the Antenna Body.

b. Insert the screws and tighten them securely using a 5 mm hex key.

Step 2 Mount the Bracket to the Pole

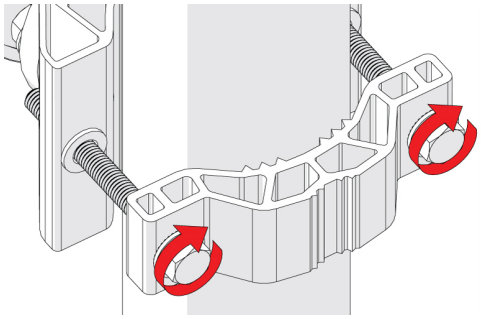


a. Position the Bracket Base against your mounting pole

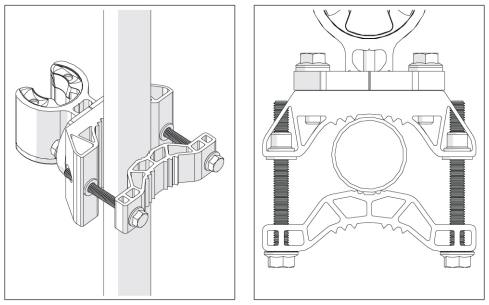
b. Place the Pole Mount Bracket clamp on the opposite side of the pole

Note
Orient the bracket clamp based on the pole's diameter.

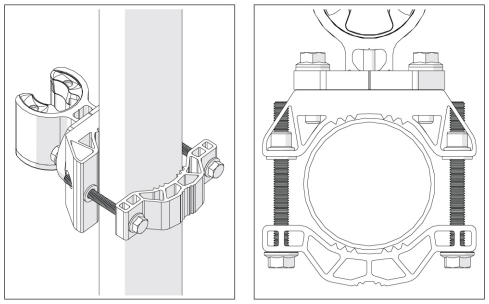
c. Insert the long M8 x 80 mm screws through the brackets and tighten the nuts firmly using a 13 mm ratchet wrench



- Use the narrower gap configuration for a 40–57 mm pole range

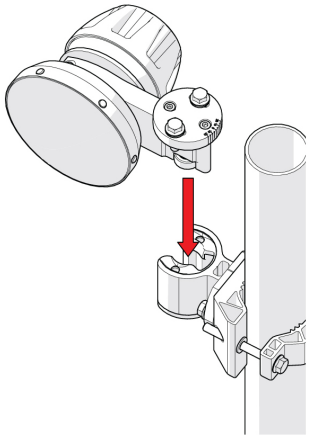


- Use the wider gap configuration for a 58–80 mm pole range



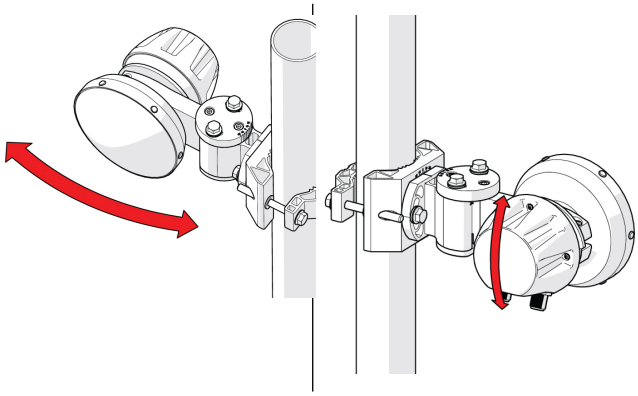
Step 3 Adjust and align the antenna

a. Secure the antenna body to the bracket base.

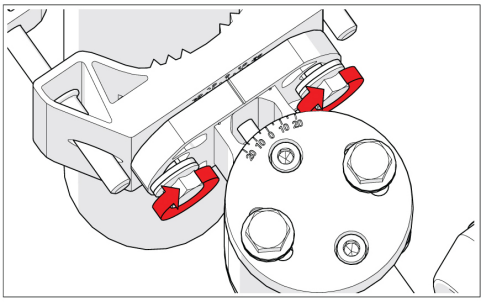


b. Use the 13 mm ratchet wrench to slightly loosen the alignment bolts on the bracket arm.

c. Adjust the antenna to your desired heading and tilt angle and tighten the bolts.



d. Lock the bolts down tightly against the pole.



Custom Antenna Orientation

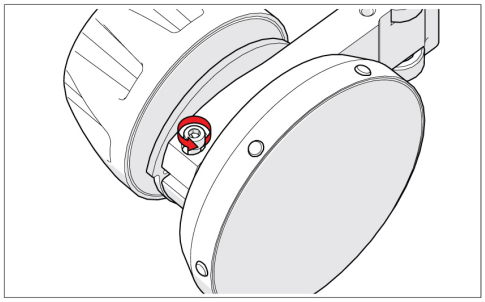
If your deployment requires a custom setup—such as switching the antenna to the right/left side of the pole, configuring it for Horizontal pipe mounting, or setting up Dual slant polarization.

Before you begin

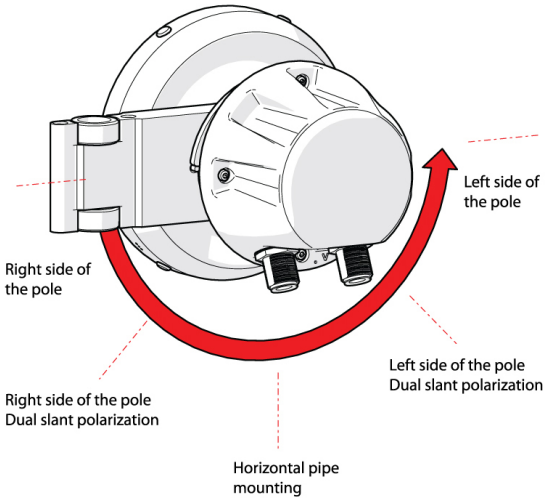
- 5 mm Hex Key

Procedure

Step 1 Use a 5 mm Hex Key to release the bracket arm rotation lock



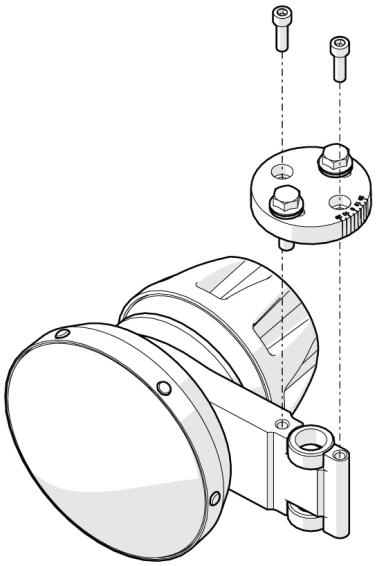
Step 2 Rotate the arm to your desired configuration



The arm positions are detent/indexed to help click it into place accurately.

Step 3 Use the 5 mm Hex Key to tighten and secure the bracket arm back into its new position

Step 4 Re-attach the Bracket Ring to complete the custom orientation



Radiation Patterns

The following figures show the antenna radiation patterns.

Figure 2: Azimuth and Elevation Patterns

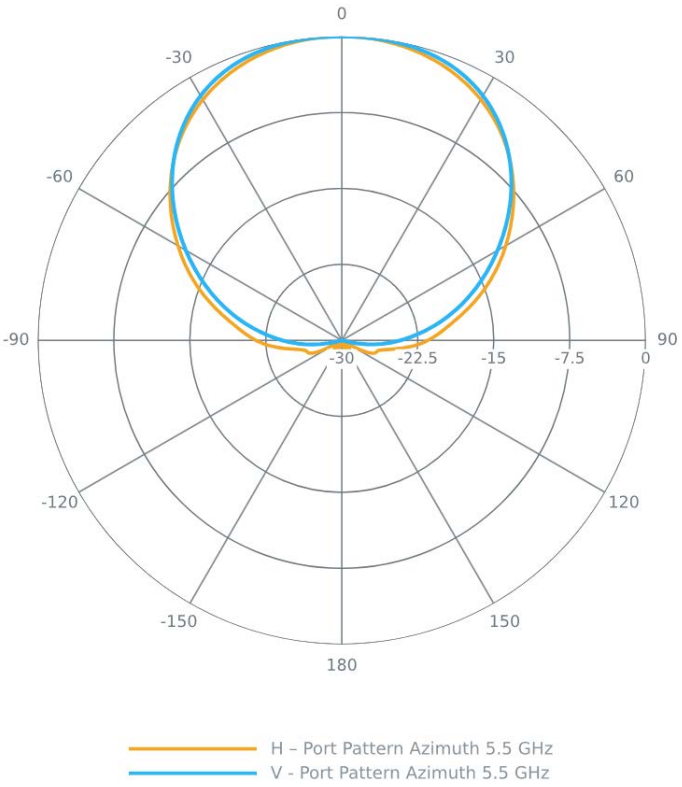


Figure 3: Gain

