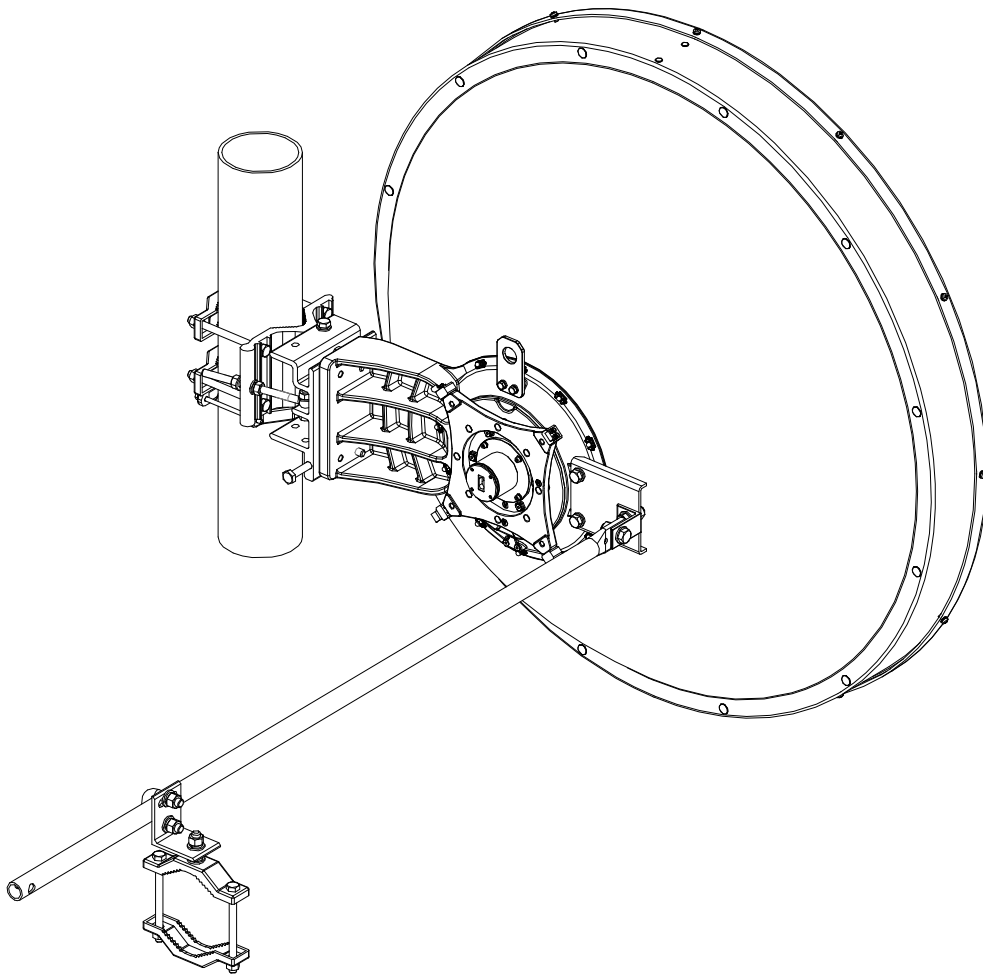


# Installation Instructions

For 0.9m Ultra-high Performance Antenna



**Before Installation, please read the instruction carefully.**

- ◆ This instruction book is for the installation of 0.9m Ultra-high performance microwave antenna.
- ◆ Installation, maintenance and removal of antenna should be done by qualified personnel.
- ◆ To guarantee performance, the antenna should be inspected once a year by a qualified personnel.

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# 1. Installation Preparation

## 1.1 Mounting Pole

The antenna must be attached to the Mounting Pole (self-feed) of diameter approximately 4.5 inches (114 mm).

## 1.2 Tools Required for Installation

20×200 Adjustable Spanner (*Used for bolt M10-M12*)

17-19 Open-end Spanners (*Used for bolt M10-M12*)

Torque Spanner (*Recommended*)

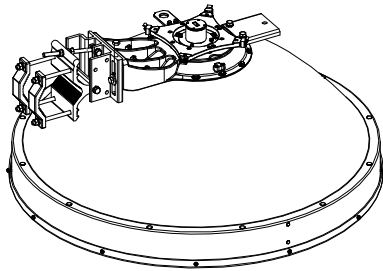
## 1.3 Torque Parameters of Standard Parts

Customer can use these torque parameters as reference to assembly the antenna.

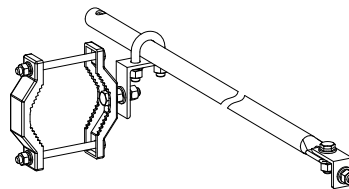
**Table of Torque Parameters**

NO.	Types of Standard Parts	Torque (N·m)
1	M3	0.6
2	M4	1.3
3	M5	3
4	M6	5
5	M10	28

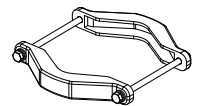
# 2. Open the Package and Identify Parts



Reflector Assembly (1 set)



Sway Bar (1 set)



Anti-skid Bracket (1 set)

**Fig 2.1 Parts List**

### 3. Mount Anti-skid Bracket

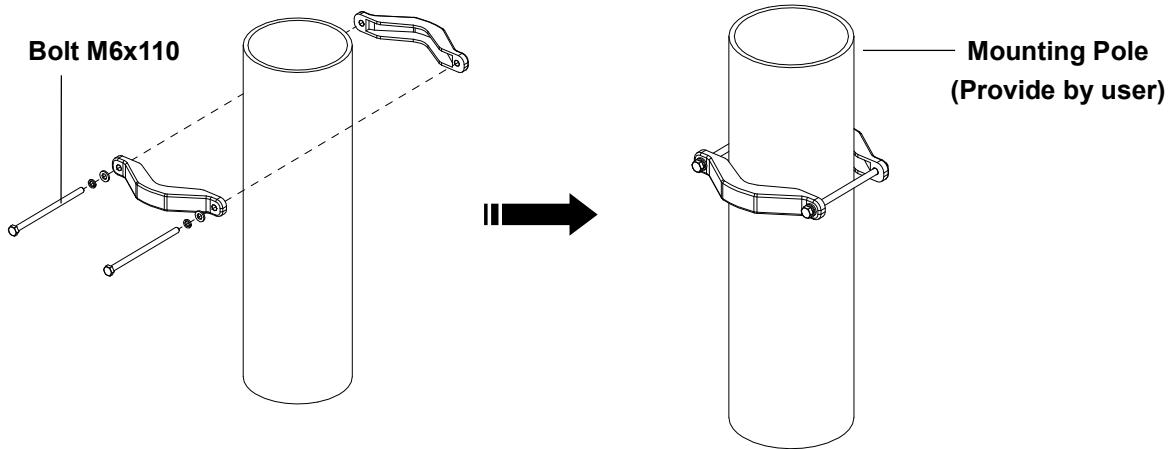


Fig 3.1

Anti-slide Bracket could be mounted to the Mounting Pole ( $\varnothing 50 \sim \varnothing 114$ ) in a way shown in Fig 3.1. Make sure tighten the two M6x110 bolts after fixing the position.

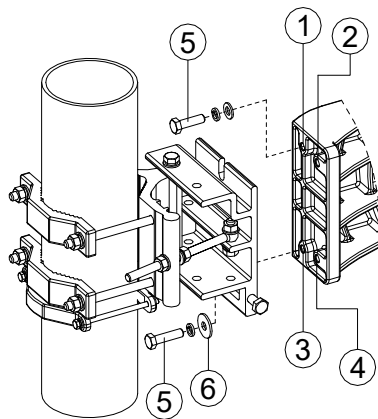
### 4. Make Coarse Elevation Adjustment

#### 4.1 Coarse Elevation Adjustment

To make a coarse elevation adjustment, loosen the bolts ⑤ (shown in Fig 4.1) . Select the correct holes for the range of adjustment required, based on the following table. Tighten bolts ⑤ after adjustment is complete.

(Note: first insert bolts in to ① or ②, otherwise it will not be possible to insert bolts into ③ or ④). Tighten bolts ⑤ after adjustment is complete.

Use Bolt holes	Range of adjustment
① and ③ (default)	-15° to +15°
① and ④	0° to +25°
② and ③	-25° to 0°



①②③④ Threaded hole (M10)

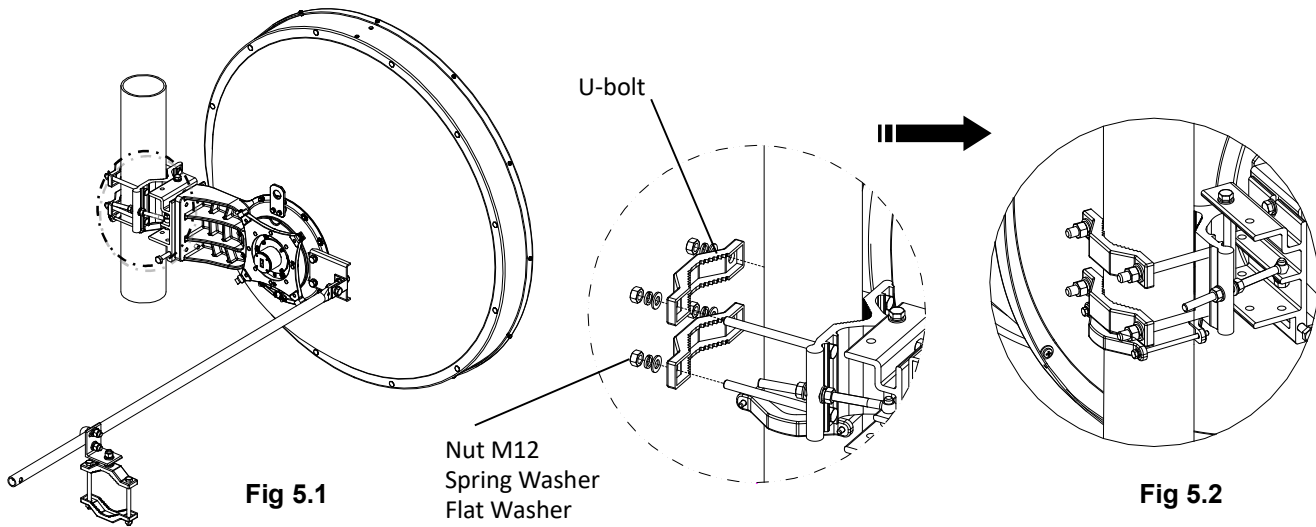
⑤ Bolt M10

⑥ Large Washer

Note: the large washer ⑥ is fitted to the adjuster bolt ⑤.

Fig 4.1

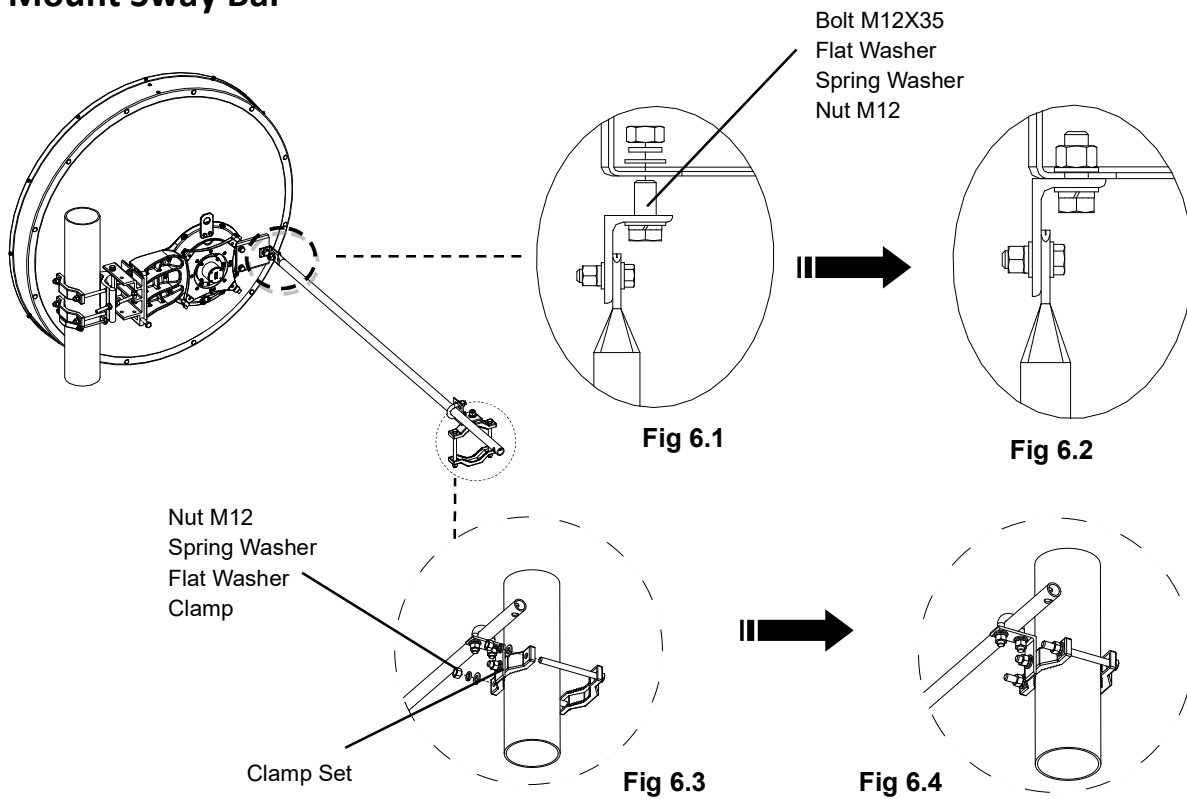
## 5. Mounting to the Pole



5.1 Mount antenna to the pole by 2 U-bolts (shown in Fig 5.1).

5.2 Tighten all the standard parts (shown in Fig 5.2).

## 6. Mount Sway Bar



6.1 Use M10X35 bolt to connect Sway Bar with antenna's Back Ring (shown in Fig 6.1).

6.2 Fix Clamp Set to the tower.

6.3 Tighten all the standard parts (shown in Fig 6.2 & Fig 6.4).

## 7. Antenna Alignment

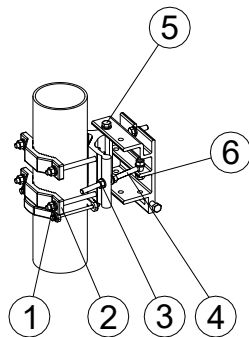
### 7.1 Azimuth Adjustment

#### Make coarse azimuth adjustment.

Referring to Fig.6.1, slightly loosen the 4 nuts ① of the clamp ②. Then push the whole antenna structure slowly round the mounting pole. Point the antenna approximately in the correct direction. Use a compass to determine the antenna's position if necessary, and then tighten clamp ② with the nuts ①.

#### Make fine azimuth adjustment.

Loosen the two pivot bolts ⑤ and ⑥, and then adjust nuts ③ of the azimuth adjuster ④ back and forth slowly. You can make a fine azimuth adjustment from  $-15^{\circ}$  to  $+15^{\circ}$ . Tighten bolts ⑤ and ⑥ and azimuth adjuster ④ after the adjustment is complete.



- ① and ③ Nut M10
- ② Clamp
- ④ Azimuth adjuster
- ⑤ and ⑥ Bolt M10

Fig 7.1

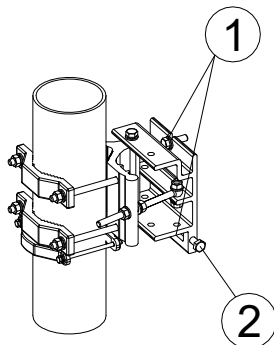
### 7.2 Elevation Adjustment

#### Make coarse elevation adjustment.

See section 4.1 for details of the coarse elevation adjustment, ensuring that you select the correct mounting holes for the elevation required.

#### Make fine elevation adjustment.

Make fine elevation adjustment (shown in Fig.7.2) by loosening the bolts ①, and then rotating the elevation adjuster ② clockwise or anti-clockwise. The antenna has a fine adjustment of  $\pm 15^{\circ}$ . Tighten bolts ① after the adjustment is complete.



- ① Bolt M10
- ② Elevation adjuster

Fig 7.2

Refer to the *VSG Remote Terminal installation and Commissioning Guide* for details on making a final alignment for best performance.

Re-adjust azimuth and elevation as required to get the best alignment.

### 7.3 Polarization Adjustment

This model of microwave antenna provides either vertical or horizontal polarization options. By default, the vertical polarization is adopted, as shown in Fig 7.3. Should a customer need alternative configuration, it could be switched and adjusted according to

Fig 7.3 ~ Fig 7.4.  
① Please tighten all the screws diaconally after the

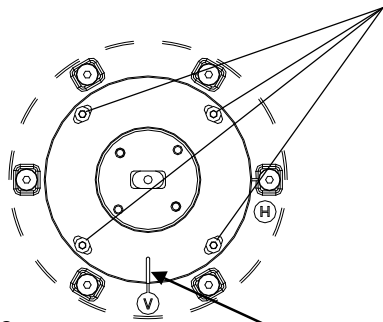
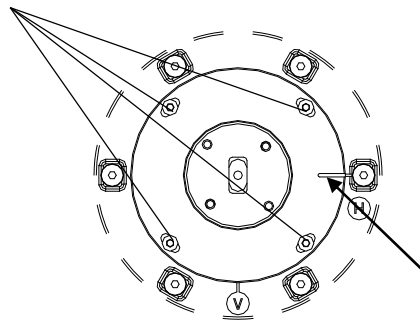


Fig 7.3

Vertical Polarization

Arrow point to V



Arrow point to H

Fig 7.4

Horizontal Polarization

### 8. Antenna Installation

Customer could install the antenna either on the left hand or right-hand sides of the pole (shown in Fig 8.1).

Left-hand installation view

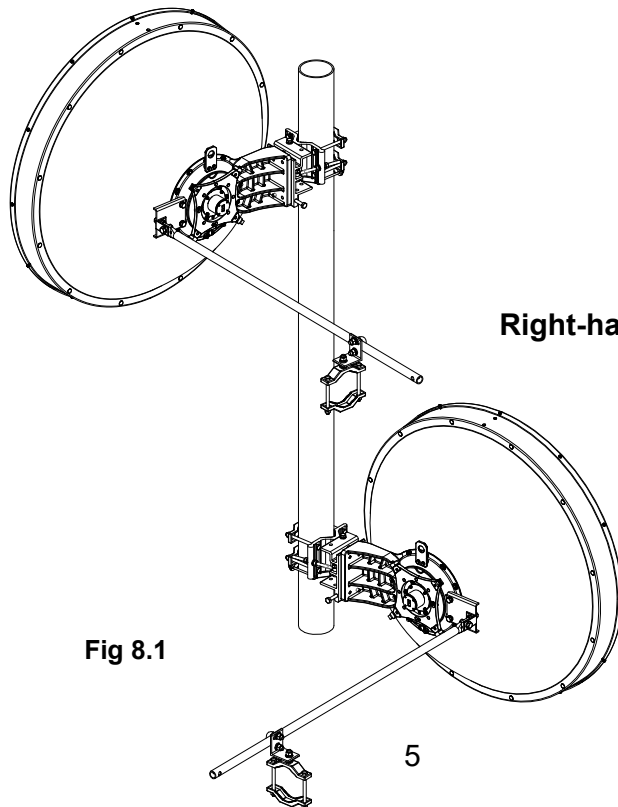


Fig 8.1

## 9. Antenna Assembly Finishing

Tighten all the standard parts after antenna assembly/alignment is done, following recommended torque specs (refer to chapter 1.3).

Keep the antenna's bottom drain hole open but leave the top two sealed (shown in Fig 9.1).

**Do not mount the antenna during rainy weather or when thunderstorms are nearby!**

The antenna should be inspected once a year by qualified personnel.

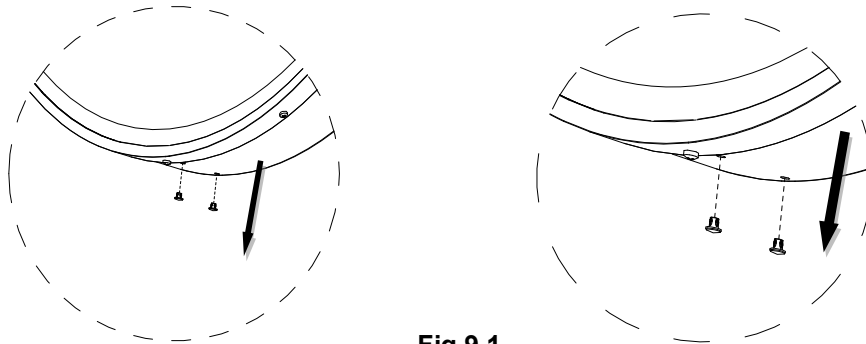


Fig 9.1