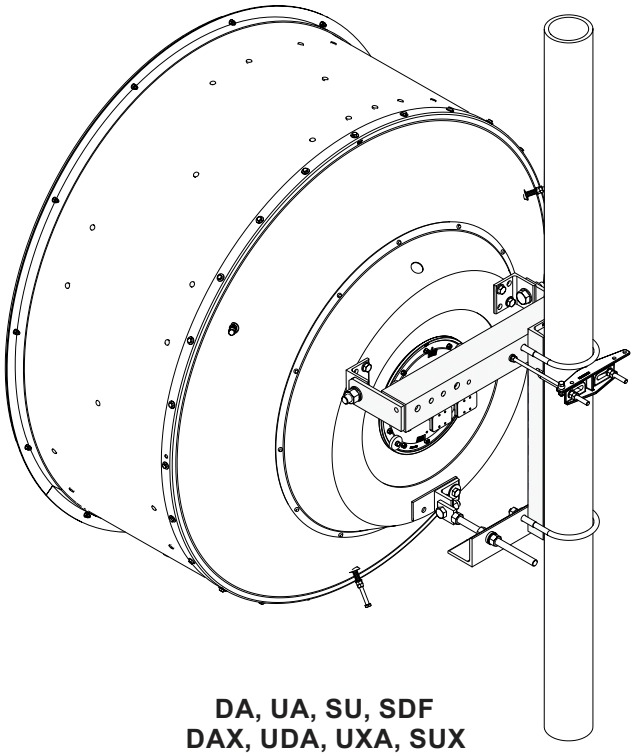
Installation Instructions
4 ft Antennas (with T-Mount)

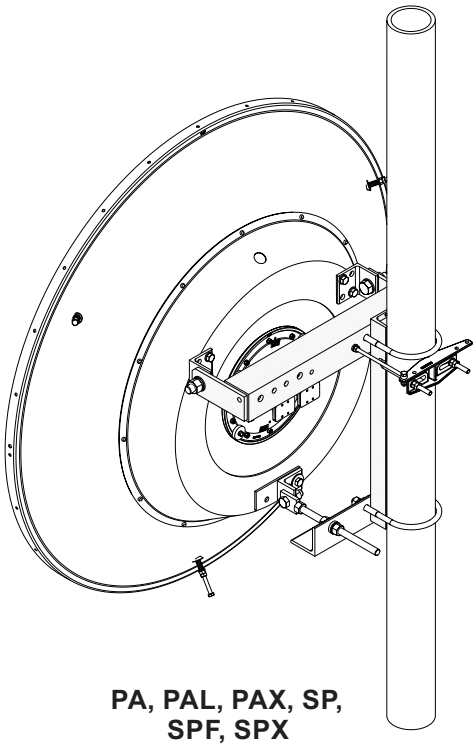
PA, PAL, PAX, SP, SPF, SPX
DA, UA, SU, SDF, DAX, UDA, UXA, SUX

NMT 400-04(e)

These installation instructions have been written for qualified, skilled personnel. The antenna shall be inspected once per year by qualified personnel to verify proper installation, maintenance, and condition of equipment. It is important to adhere precisely to all parts of the installation instructions. RFS disclaim any responsibility resulting from improper or unsafe installation. RFS reserves the right to alter details at any time, especially with respect to technical improvements.



DA, UA, SU, SDF
DAX, UDA, UXA, SUX



PA, PAL, PAX, SP,
SPF, SPX

These installation Instructions are valid for antennas in the following version :

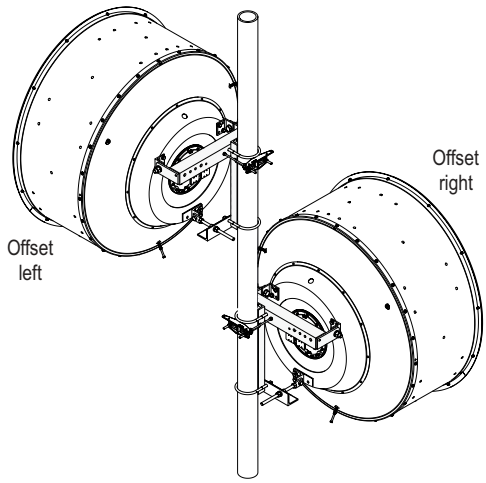
- Reflector Ø1.2 m (4 ft) equipped with backring
- Feed system single or dual polarized
- Pipe mount installation on Ø115 mm (the pipe is not included with antenna)
- Antenna offset to the left or the right
- Safety collar for easy installation
- 2 spindles for fine adjustment **Azimuth** and **Elevation** of ±5°
- Reflector with shroud, with aperture covered by a **flexible planar radome**, or without shroud (see sketch above)

Sales department : Radio Frequency Systems
Kabelkamp 20, D-30179 Hannover (Germany) • Tel. +49-511 676-2520 • Fax +49-511 676-2521
Plant : RFS France Trignac (France) • Tel +33 (0)2 40 45 95 45 • Fax +33 (0)2 40 90 41 43

1 - Tools required for installation (tools are not included with antenna)

- Hoisting device for 135 daN
- Shackles
- 2 ropes
- 1 short lifting sling, length 1150 mm, Ø wire 8 mm.
- 1 short lifting sling, length 2000 mm, Ø wire 8 mm.
- Water balance and compass
- Square
- Wrenches for hexagon bolts : M6(10), M8(13), M10(17), M12(19), M14(21), M16(24), M20(30)
- Torque wrenches from 8 Nm to 240 Nm

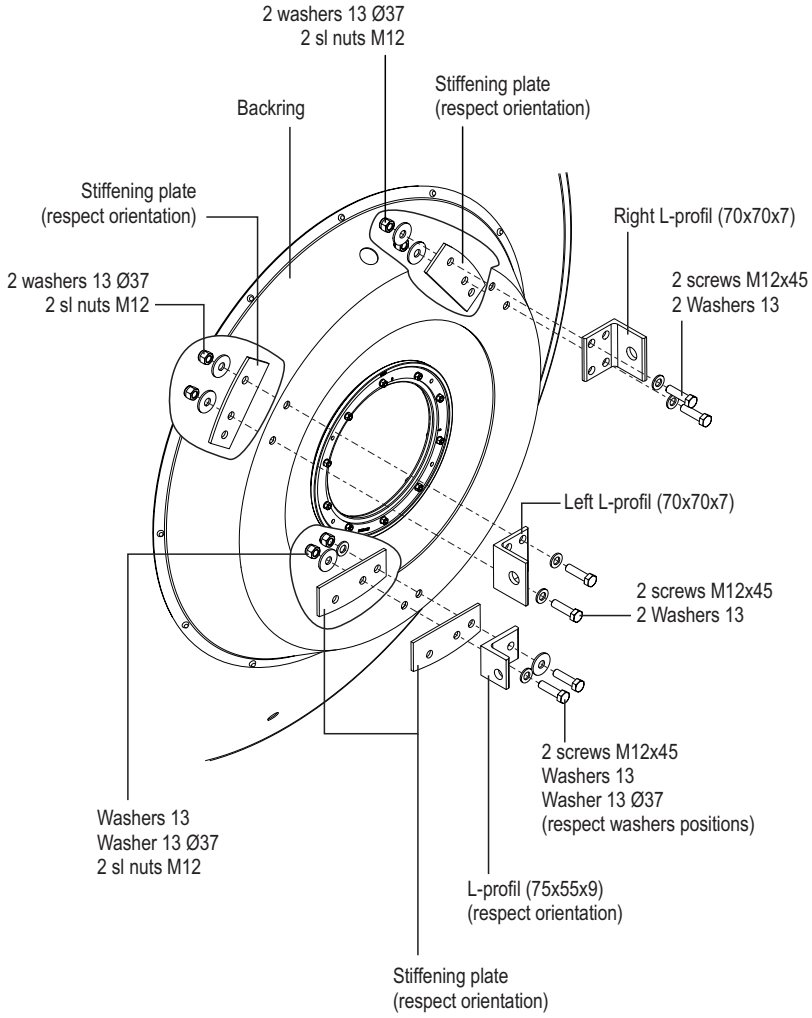
2 – Antenna Offset



3 - Assembly of the mount

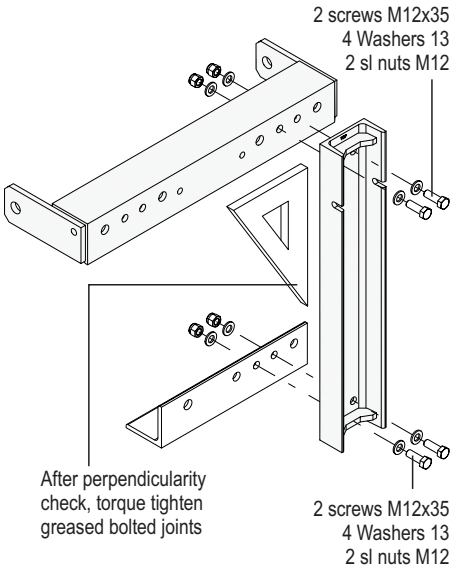
For easy operation of the bolted joints, and correct torque tightening, « Anti Seize » installation paste must be applied to all threads of bolts and fine adjustment spindles. After this, keep the lubricated threads free of dust and dirt ! (a torque table is attached for specifications)

3.1 - Brackets installation on backring (for an offset left or right)

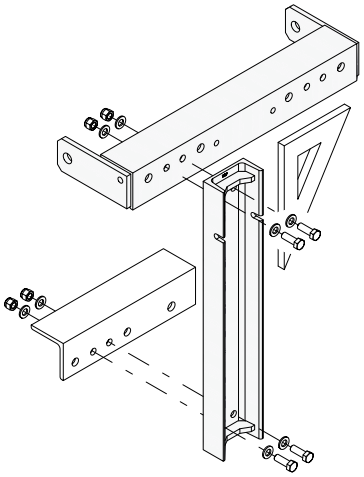


3.2 – Pre-assembly of the shroud the T-Mount

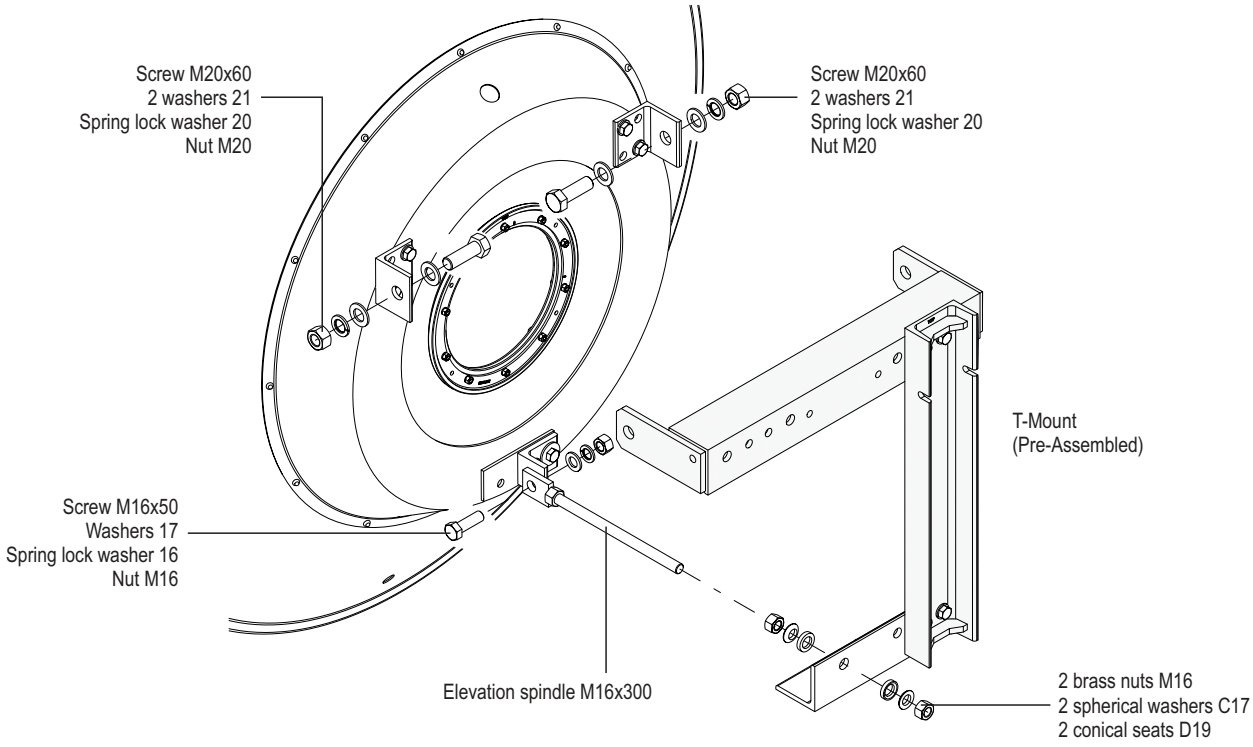
For an offset left



For an offset right



3.3 - T-Mount installation on the backring (principle for an offset left)

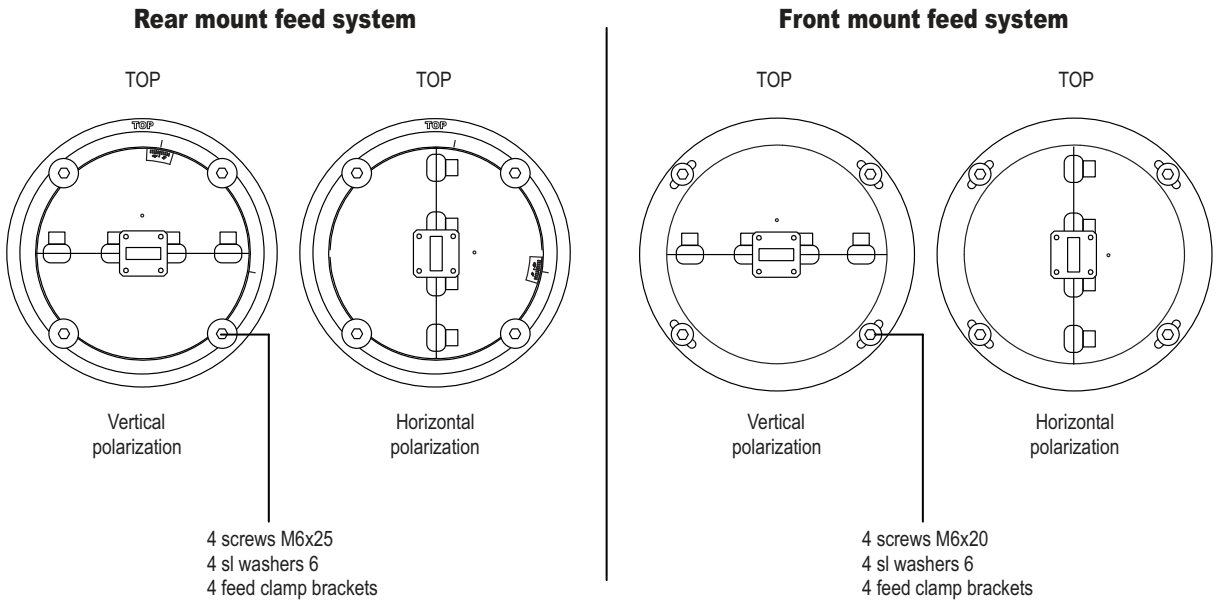


4 - Feed system configuration (Excepted customized interface antenna)*

* For customized antennas, see specific Feed Installation Instruction joined).

The feed is a precision component which should be handled with special care during installation. For instance, always carry the feed, supporting casting plate side. Any damage may degrade the antenna's performance. Repair of feeds is not possible in the field. Keep flange obturators on feed system up to waveguide connection.

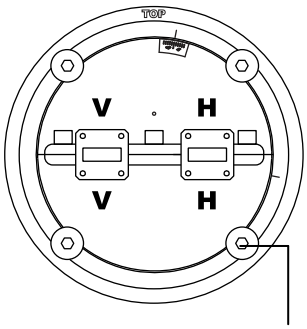
4.1 - Polarization choice (single polarization feed system)



4.2 - Dual polarization

Rear mount feed system

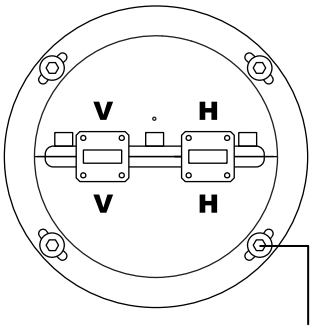
TOP



4 screws M6x25
4 sl washers 6
4 feed clamp brackets

Front mount feed system

TOP

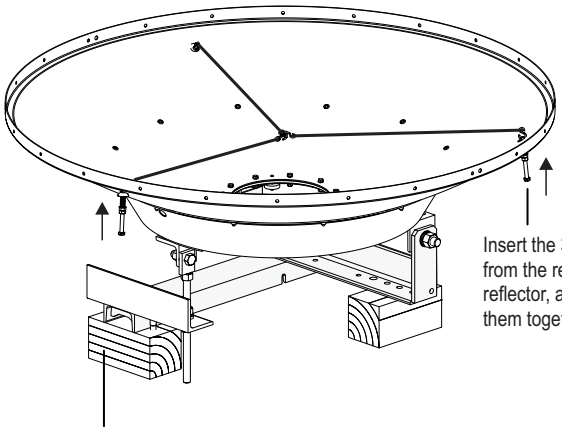


4 screws M6x20
4 sl washers 6
4 washers 6.4

5 - Feed system installation

Rear mount feed system (dual polarized with guy wires as principle)

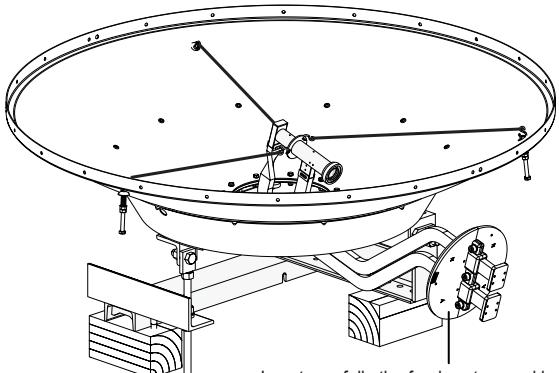
A



Insert the 3 guy wires from the rear side of the reflector, and attach them together.

Square timber

B

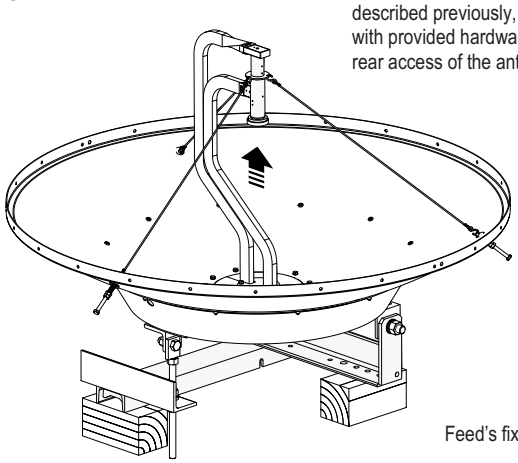


Insert carefully the feed system and hook the 3 guy wires (3x120°) on the rotating ring

Take care to not damage the feed system during the installation & keep mount parts free of dust

C

Set the feed system orientation as described previously, then attach it with provided hardware from the rear access of the antenna



Feed's fixation with :

Feed clamp bracket
SL washer 6
Screw M6x25

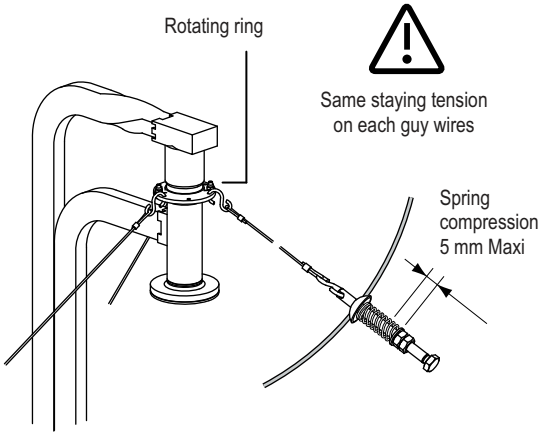
x4

D

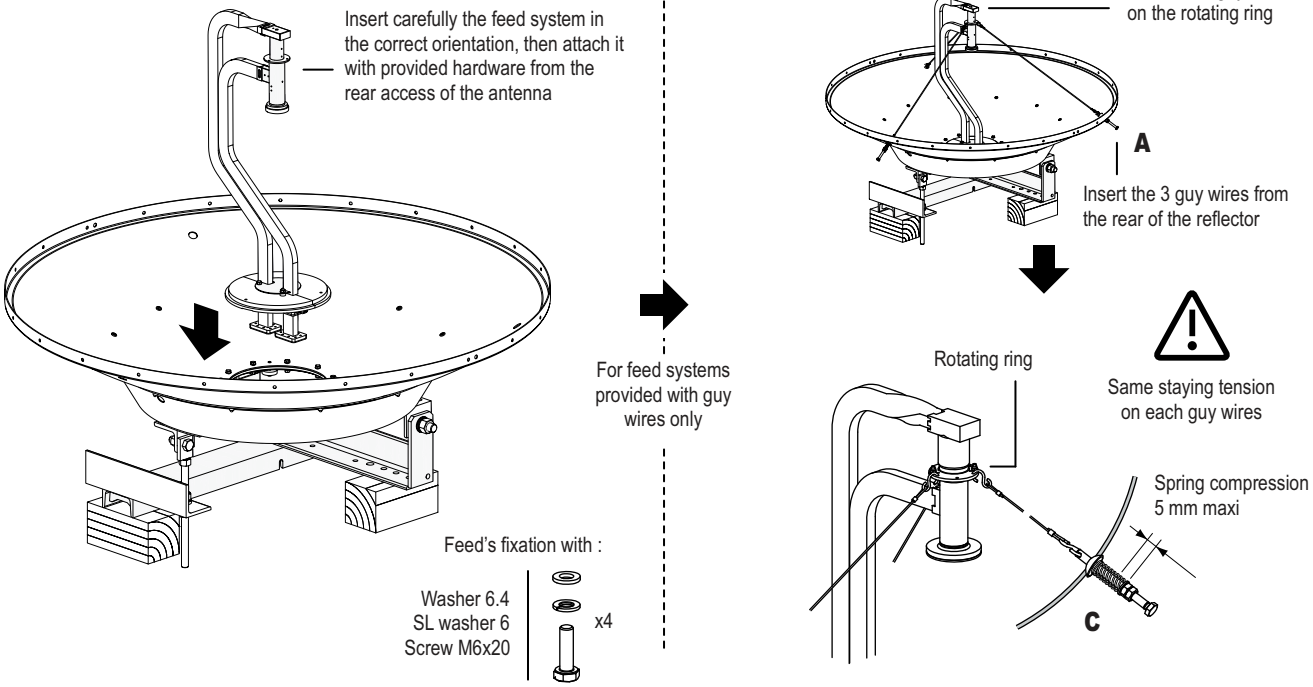
Rotating ring

Same staying tension on each guy wires

Spring compression 5 mm Maxi

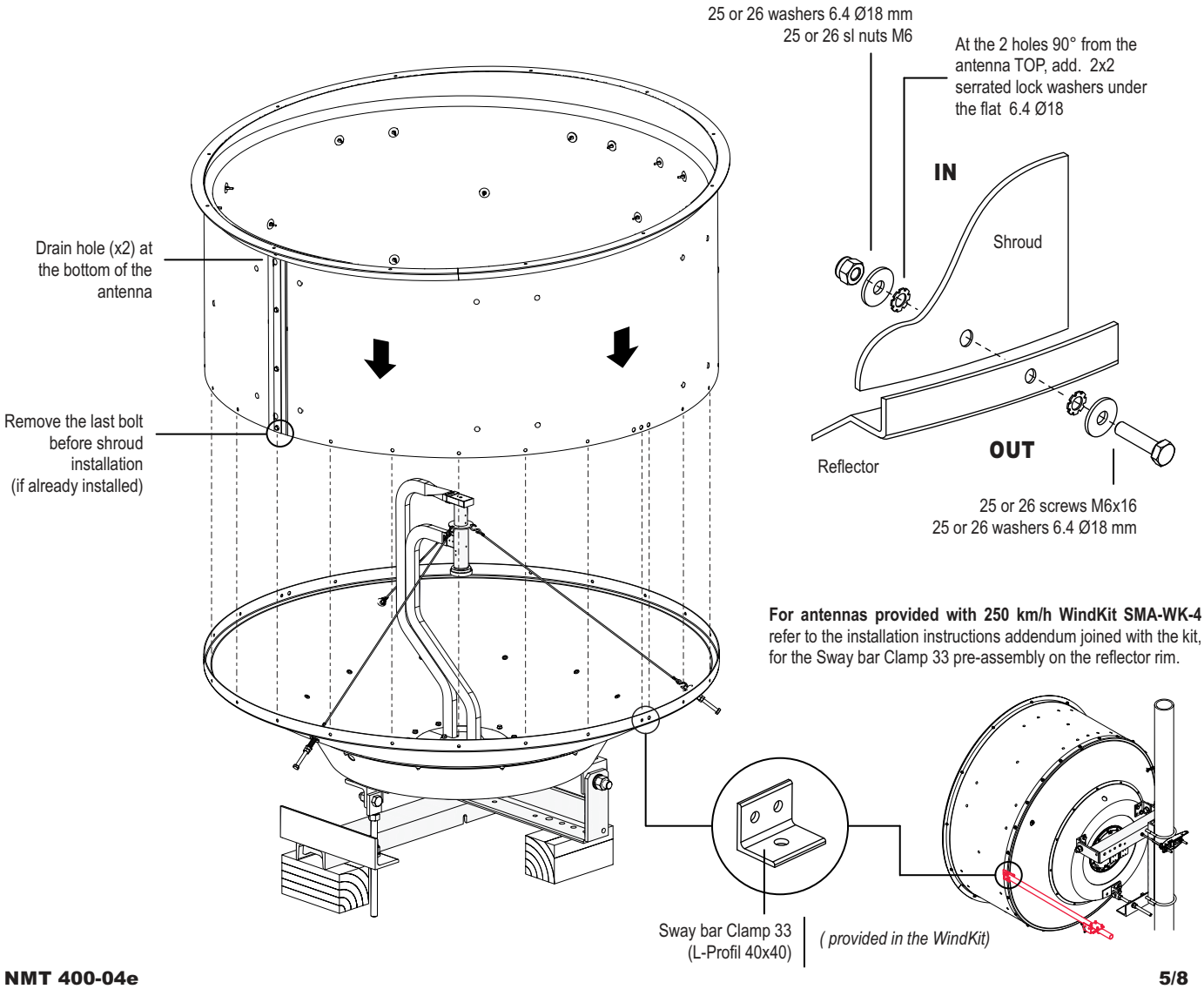


Front mount feed system (dual polarized with or without guy wires as principle)



---

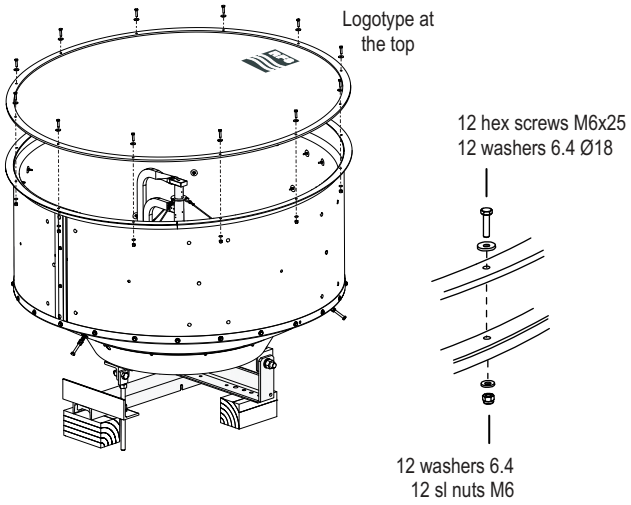
6 - Shroud installation (for antennas equipped with shroud)



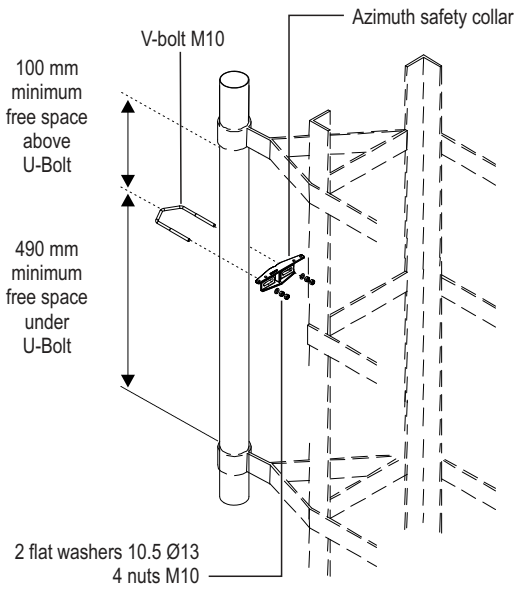
For antennas provided with 250 km/h WindKit SMA-WK-4 refer to the installation instructions addendum joined with the kit, for the Sway bar Clamp 33 pre-assembly on the reflector rim.

7 - Radome installation (for antennas equipped with shroud)

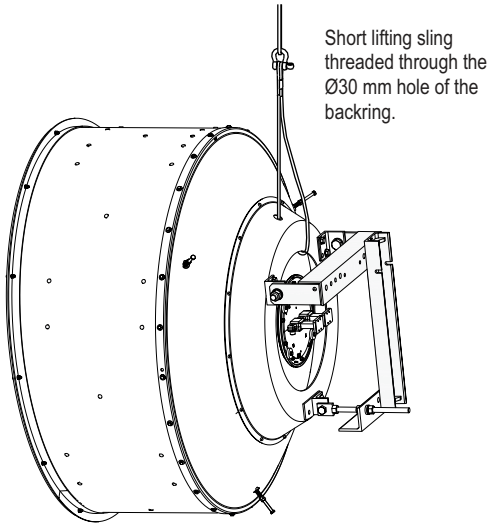
Take care to avoid kinking of planar radome during installation.
Kinking would destroy the radome, wich are not repairable !

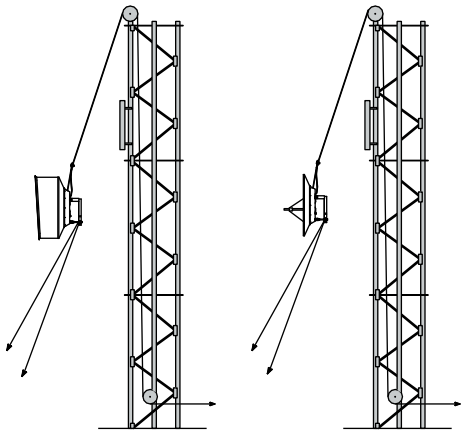


8 – Safety collar pre-installation on pipe support



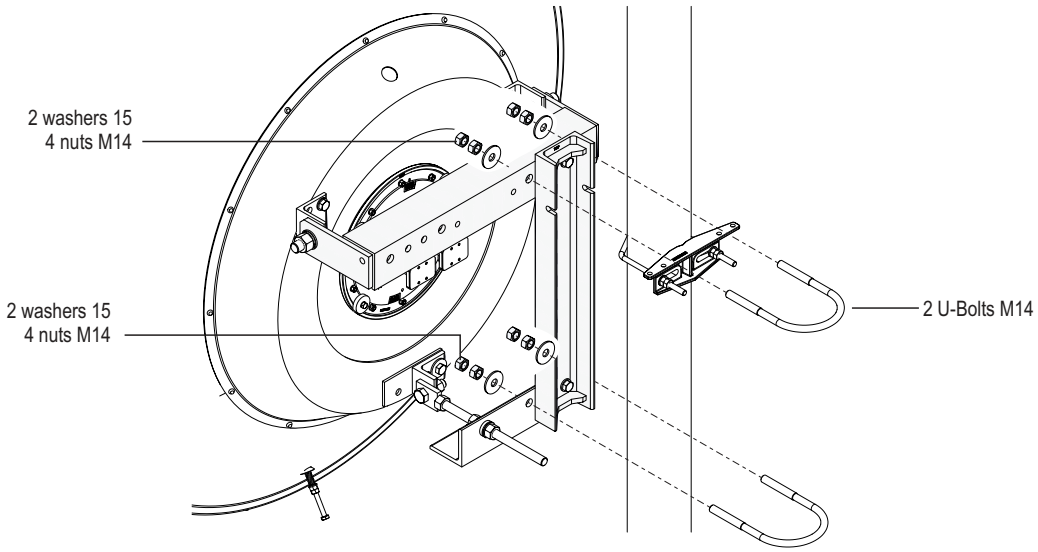
9 - Lifting antenna and hoisting on the tower



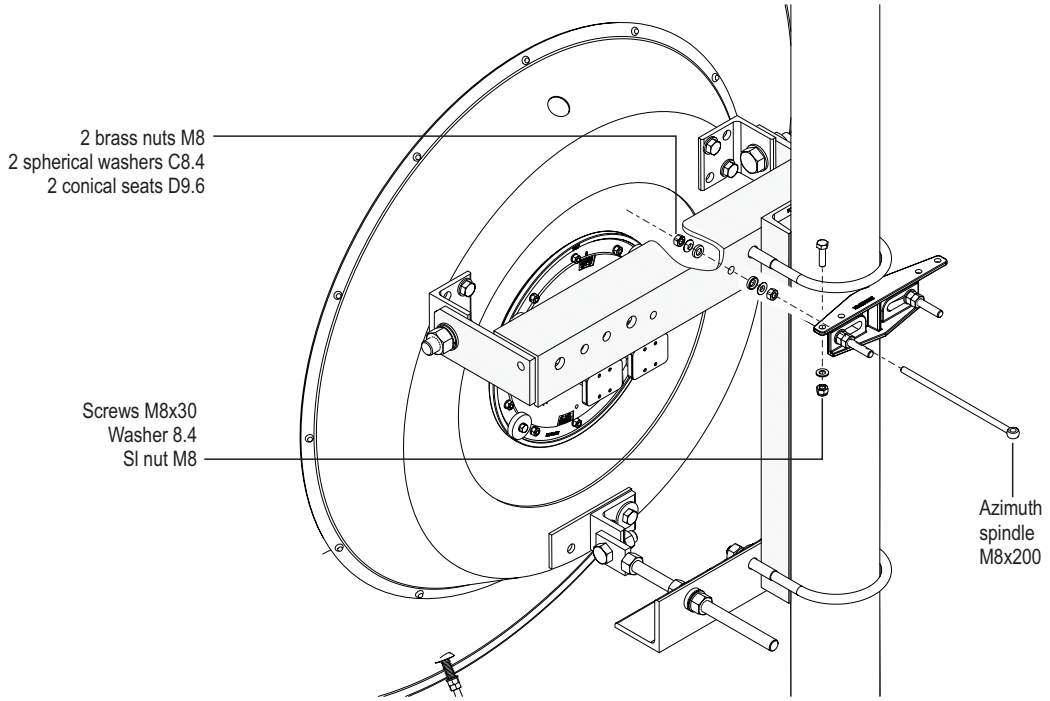


2 ropes fixed on the mount to avoid collision with the structure.

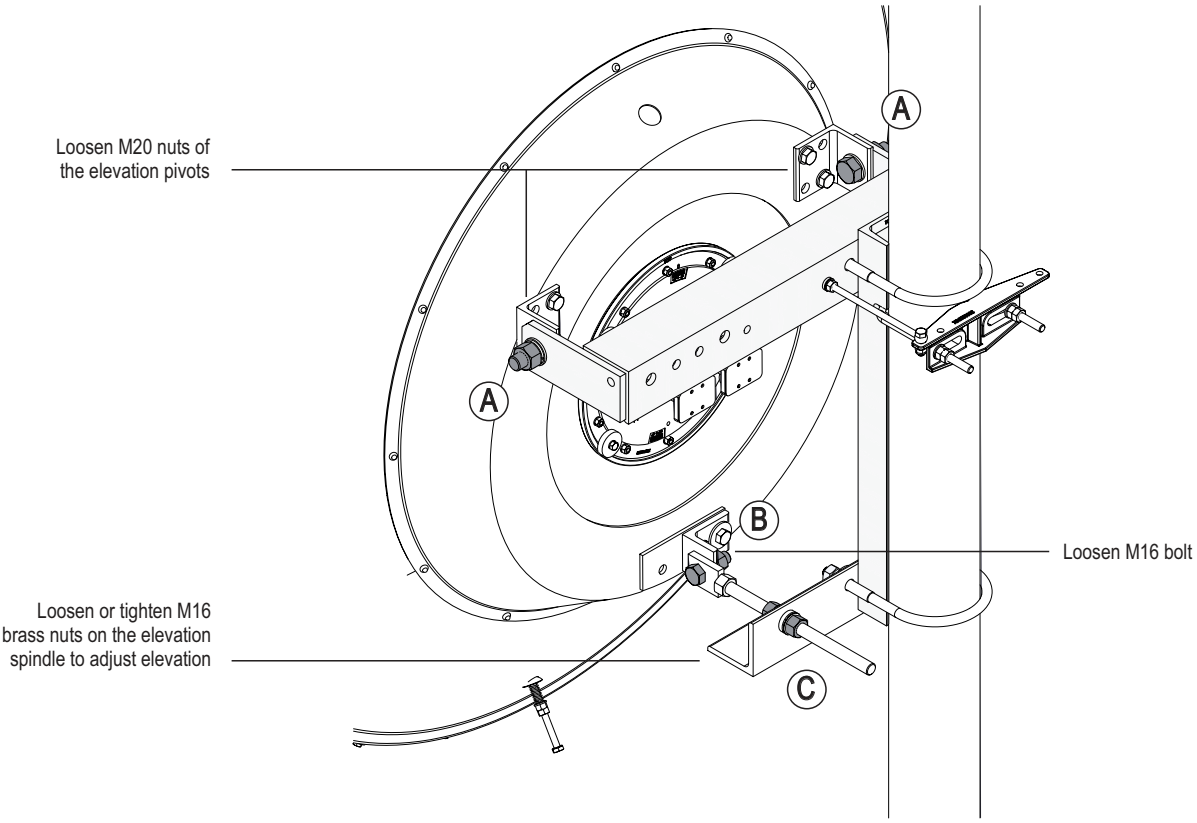
10 - Antenna install on pipe



11 - Azimuth spindle installation

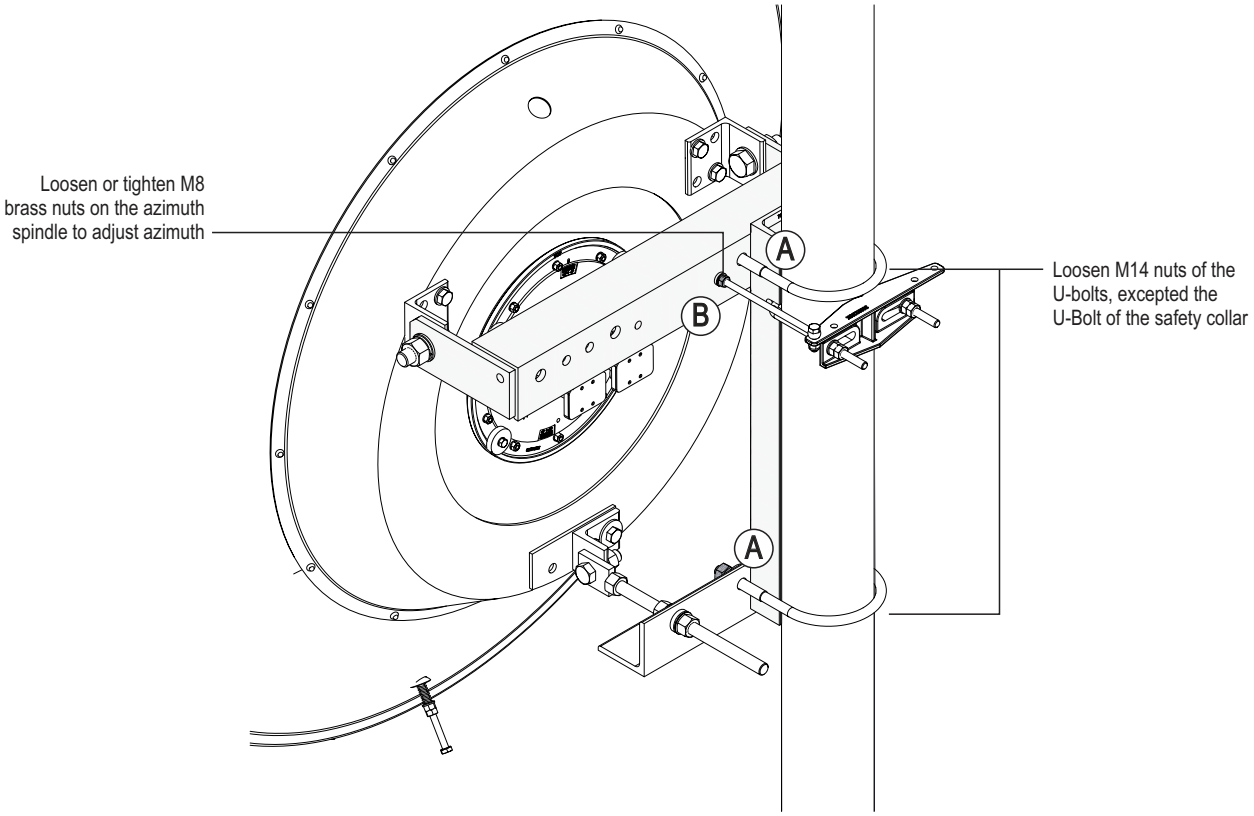


12 - Elevation adjustment



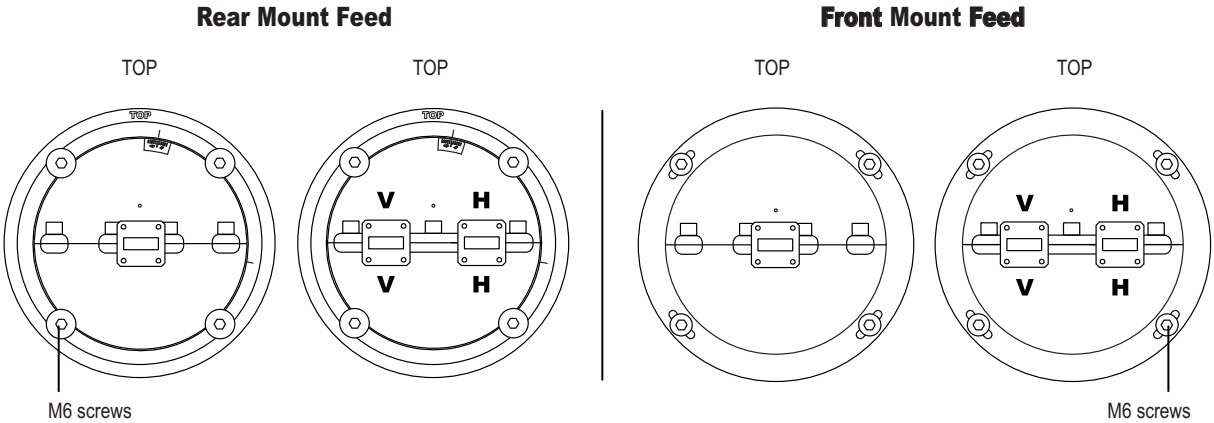
After complete elevation adjustment, torque tighten the 2 brass nuts of the elevation spindle; then torque tighten the 2 M16 and the M20 bolted joints to lock the mount articulation (the bolted threads must have been greased before torque tightening).

13 - Azimuth adjustment



After azimuth adjustment, lock 2 M8 brass nuts, then torque tighten the 2 first nuts on the 2 M14 U-bolts (the U-bolt threads must have been greased before torque tightening), then lock the second nuts against each first one with a usual wrench (counter-nut function).

14 - Polarization adjustment (after antenna complete installation on the tower)



Loosen the 4 screws M6 and adjust polarization ±5° by feed casting rotation,
After polarization adjustment, tighten the 4 M6 screws to lock the feed's rotation

15 - Final check

When the installation of the antenna has been completed, it is necessary to make sure that the installation instructions have been followed in all aspects. It is especially important to check that all bolted joints are torque tightly locked.