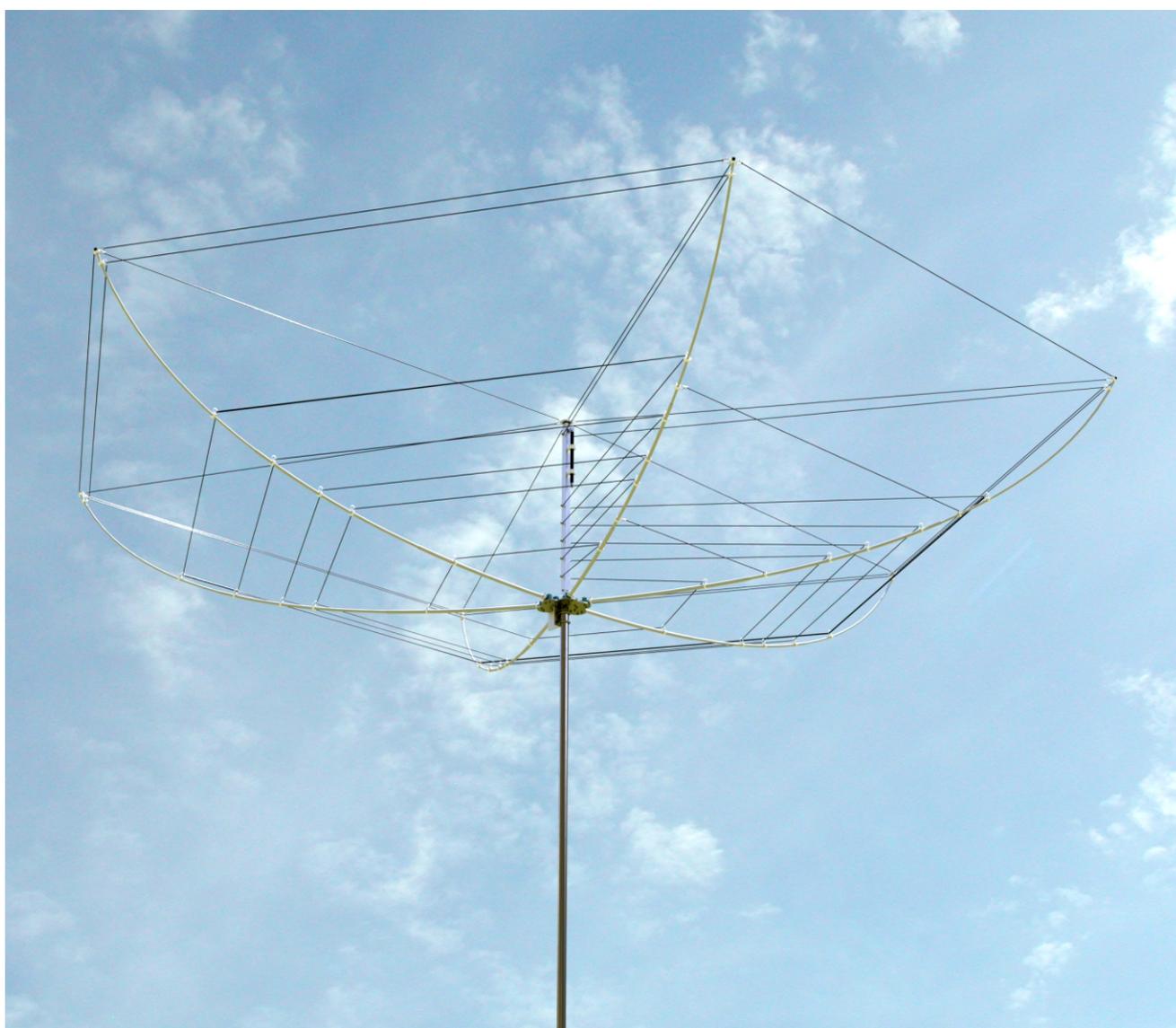


EAntenna HEX6B

Article # 17820.HEX6B



6 BANDS HEXAGONAL BEAM ANTENNA



Weight: 8,1 Kg
Max. power: 5,0 kW

* This antenna includes a balun

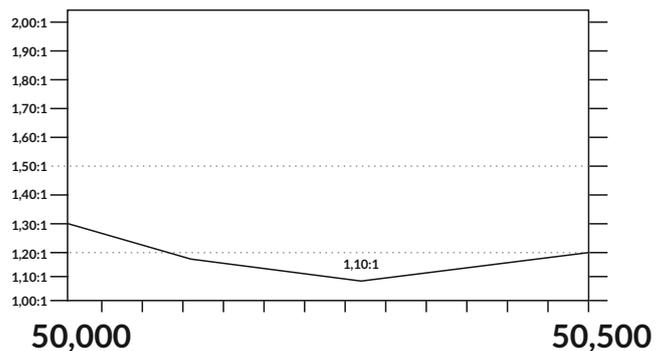
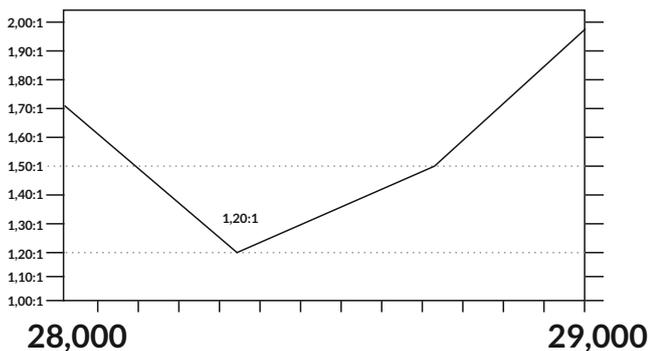
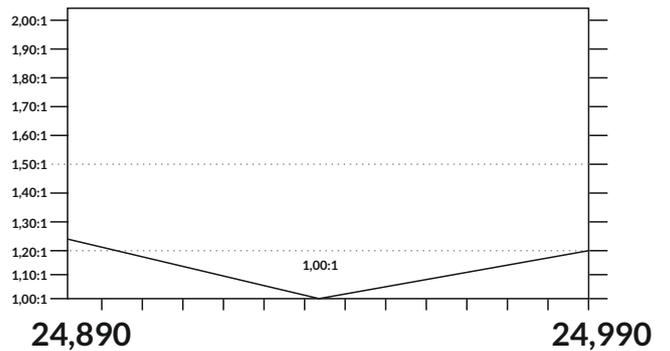
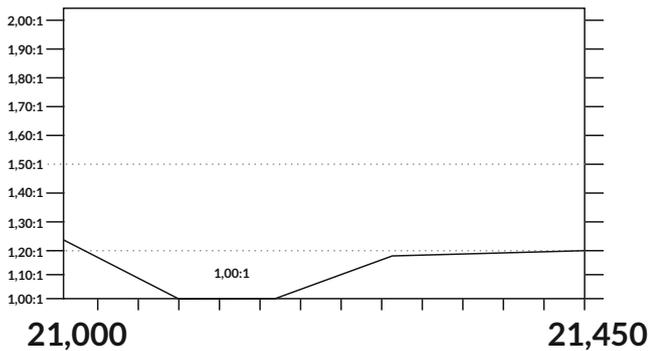
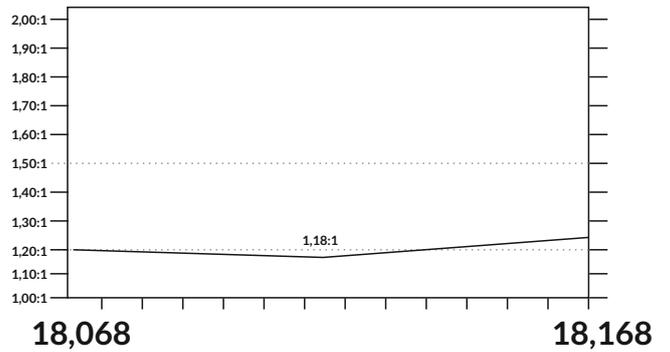
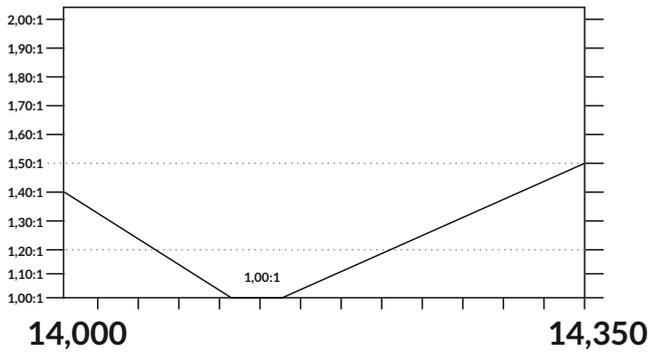
G3TXQ HEXBEAM ANTENNA



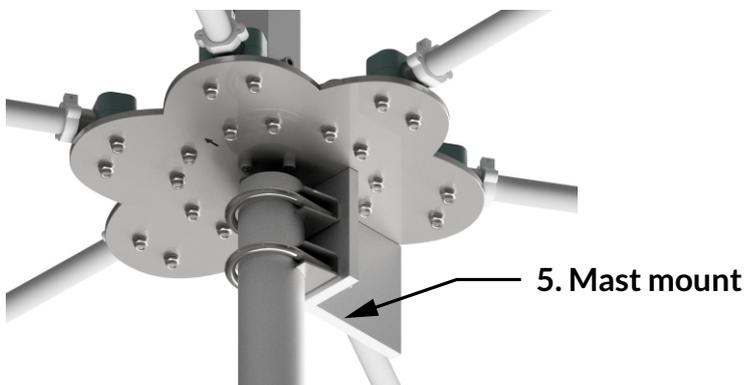
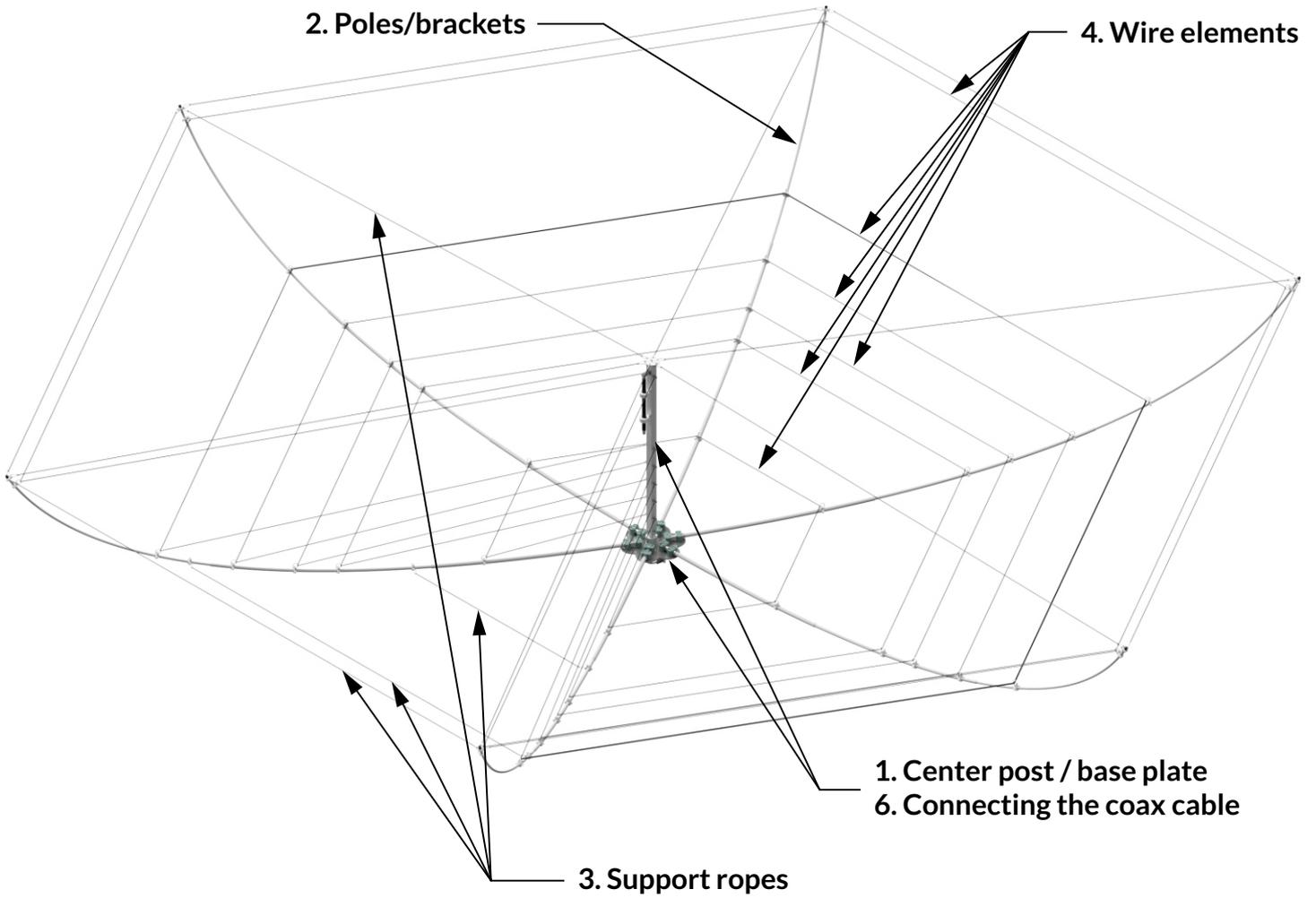
	Peak Gain:	Peak F/B:	2,0 : 1 SWR B/W
20m	3.8 dBd	22 dB	350 < 1.5
17m	3.2 dBd	19 dB	100 < 1.3
15m	3.5 dBd	16 dB	450 < 1.5
12m	3.0 dBd	13 dB	100 < 1.4
10m	3.6 dBd	16 dB	1400
6m	3.7 dBd	18 dB	500 < 1.5

Thanks to:
Steve, G3TXQ to grant us the rights of this antenna design.

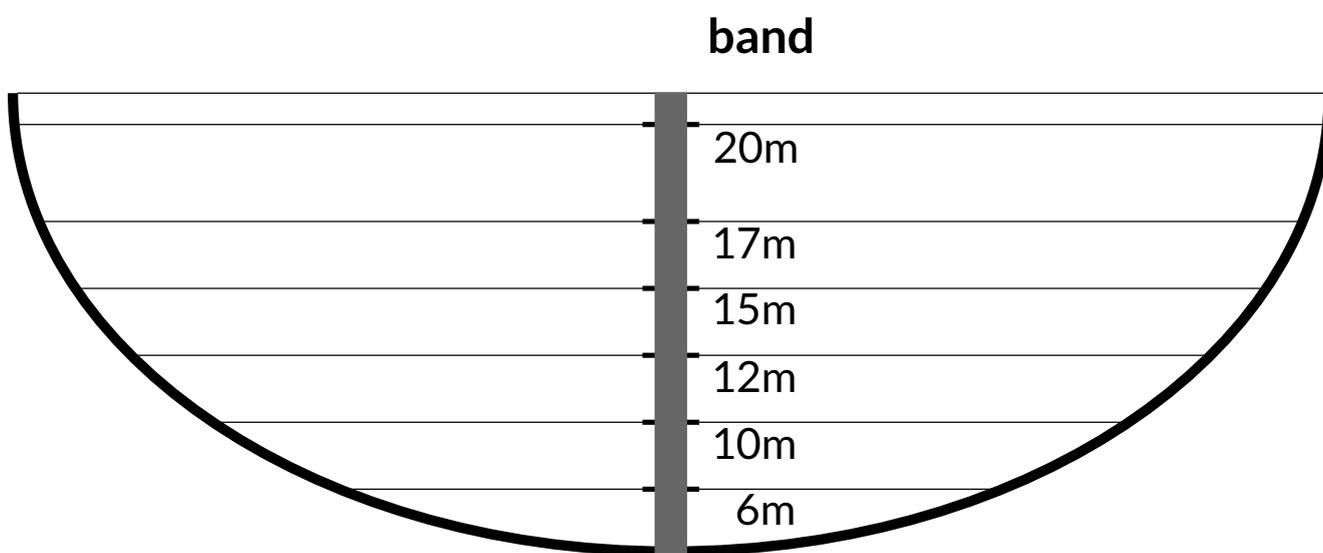
SWR graph at 6m (18 feet) above ground



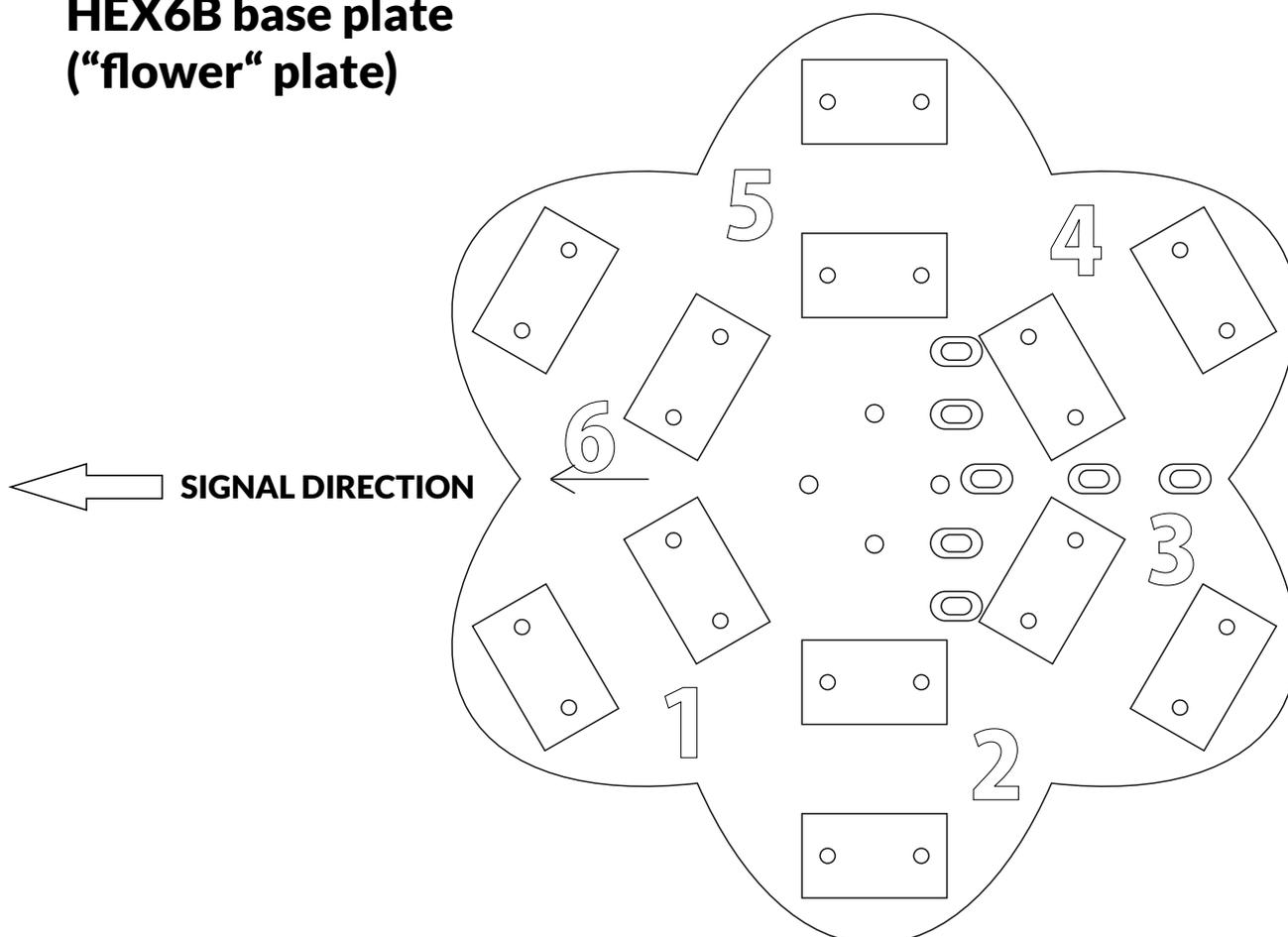
Overview



Side view



HEX6B base plate ("flower" plate)



Not to Scale

1. Center post / base plate

First of all, fix the **center post** (EA01HPOST) to the middle of the "flower"/base plate with the 4 pre-mounted screws (figure 4-1).

For correct assembly, the **connector of the center post must point to the same direction as the „arrow“ mark on the base plate.** (figure 4-2)

The positioning of the wire element lugs is easy:

With the supplied wrench

1. Remove the nut and one washer
2. Put the wire element lug on the terminal bolt
3. Mount the washer and the nut back on the terminal bolt

For best contact, the cable lugs always need to be positioned **between** the two washers.

All wire elements are symmetric.

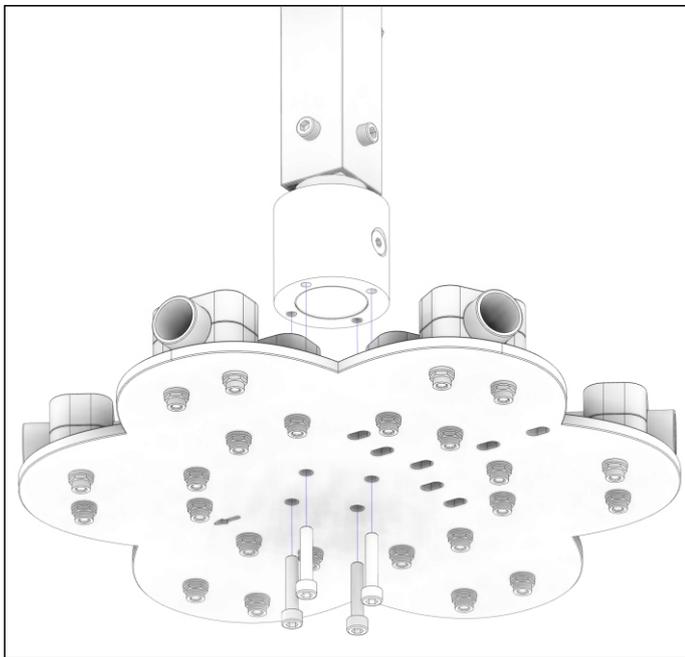
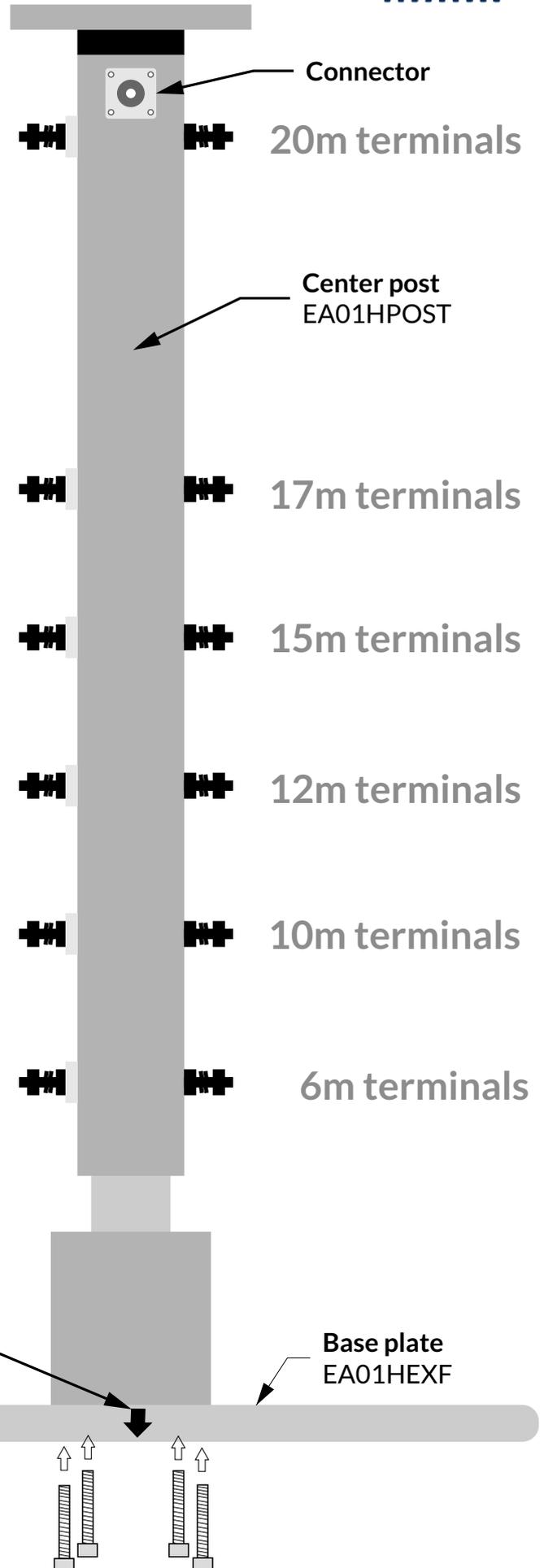


Figure 4-1



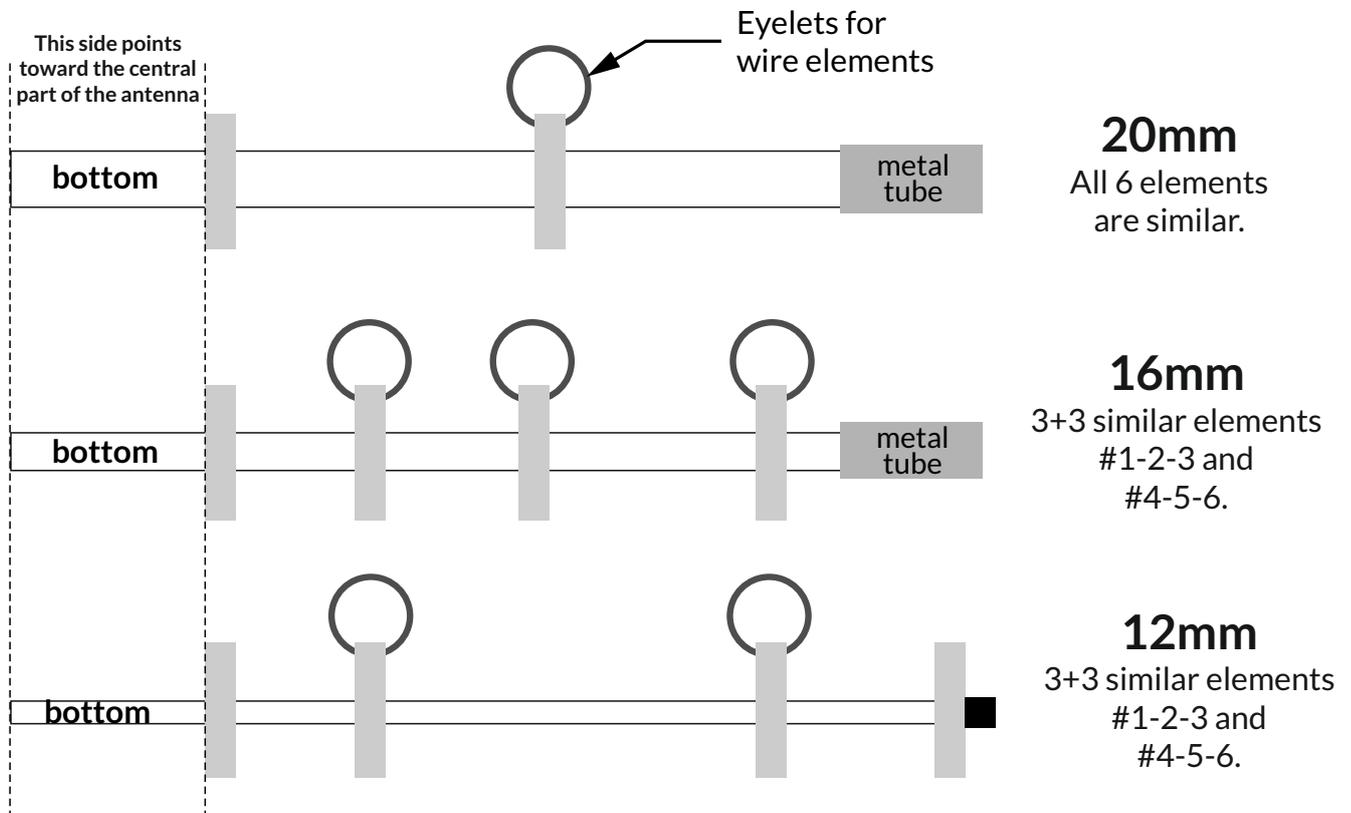
Arrow mark

Base plate
EA01HEXF

Figure 4-2

2. The pole elements and brackets

Each of the 6 antenna poles consists of 3 elements, while all the 20 mm elements are identical.



In the following steps, poles #1, 2 and 3 will be assembled first, followed by poles #4, 5 and 6.

As you already may have noticed, there are **different types of brackets** located alongside the elements: Some brackets have one single hole only (figure 5-1), others do have two holes, some don't have any holes at all.

For best workflow and organization we recommend to sort the **16 mm and 12 mm elements** by the orientation of the brackets with one single hole only:

Stack 1:

- **16 mm** elements with single-hole bracket - hole on the **RIGHT** side (seen from bottom)
- **12 mm** elements with single-hole bracket - hole on the **RIGHT** side (seen from bottom)

Stack 2:

- **16 mm** elements with single-hole bracket - hole on the **LEFT** side (seen from bottom)
- **12 mm** elements with single-hole bracket - hole on the **LEFT** side (seen from bottom)

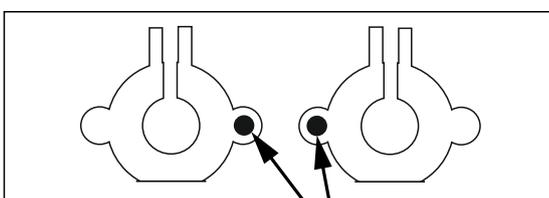
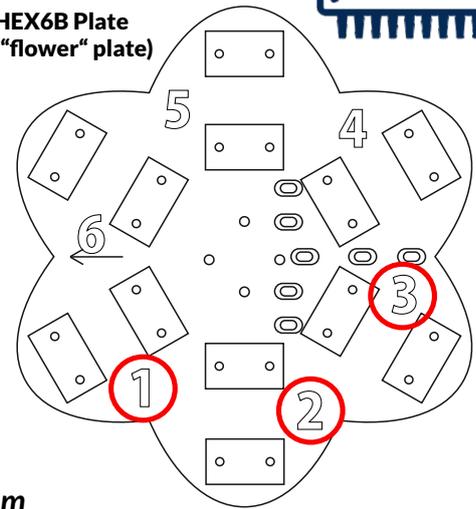


Figure 5-1 brackets with single hole, right OR left side

2.1 Assembly of poles #1- 2- 3

HEX6B Plate
("flower" plate)



All 6 „base“ elements with a diameter of 20 mm are identical.

As already mentioned on the page before, the elements with 16 mm and 12 mm diameters differ in the position of the holes of some brackets:

For 16 mm and 12 mm pole elements there are respectively:

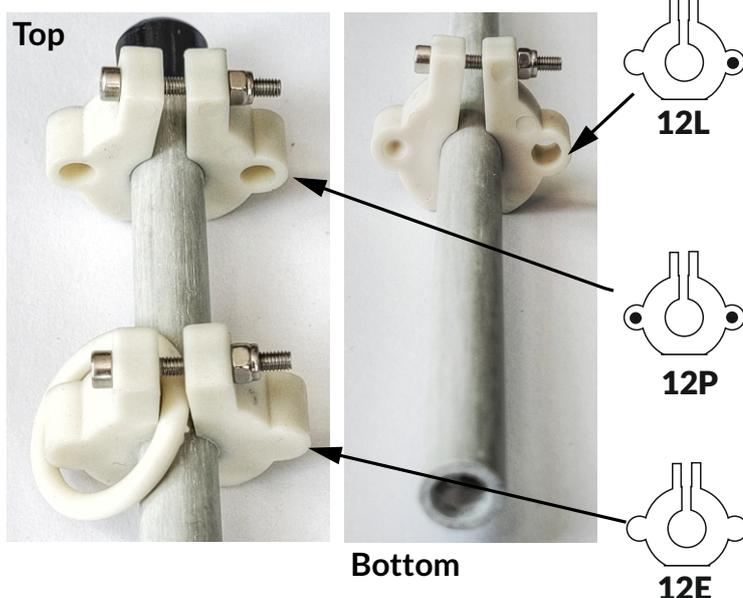
- 3 elements with single holes on the **RIGHT** side (seen from bottom) of **16L** and **12L** bracket
- 3 elements with single holes on the **LEFT** side (seen from bottom) of **16L** and **12L** bracket

When joining the 16 mm and 12 mm elements, make sure that

the holes of the brackets always point to the same side on each assembled element.

Finally, the 16 mm elements can be inserted into any of the 20 mm elements.

12 mm elements



12L: Available at the # 1-2-3 and 4-5-6 poles. The single holes are used to reinforce the # 1 and 6 fiberglass poles for stability by the use of ropes. **Seen from the bottom, the hole in 12L is on the RIGHT SIDE**

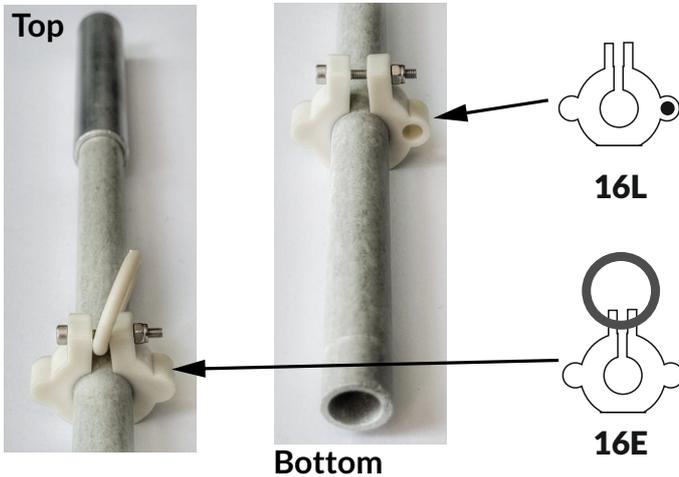
12P is the bracket on top of the 12 mm element. The 2 holes of similar diameter are used for attaching the yellow marked ropes. These will connect all 6 poles with each other. The red marked ropes will be attached to the bolt and connected to the top of the center post.

12E: These brackets are equipped with rings/eyelets to hold the antenna wires.

2.2

Assembly of poles #1- 2- 3 (continued)

16 mm elements

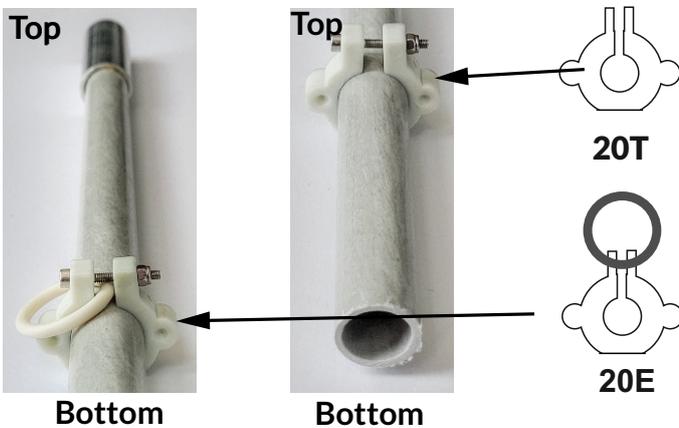


16L: Available at the # 1-2-3 and 4-5-6 poles. The side holes are used to reinforce the #1 and 6 fiberglass poles for stability by the use of ropes.

Seen from the bottom, the hole in 12L is on the RIGHT SIDE

16E: These brackets are equipped with rings/eyelets to hold the antenna wires.

20 mm elements



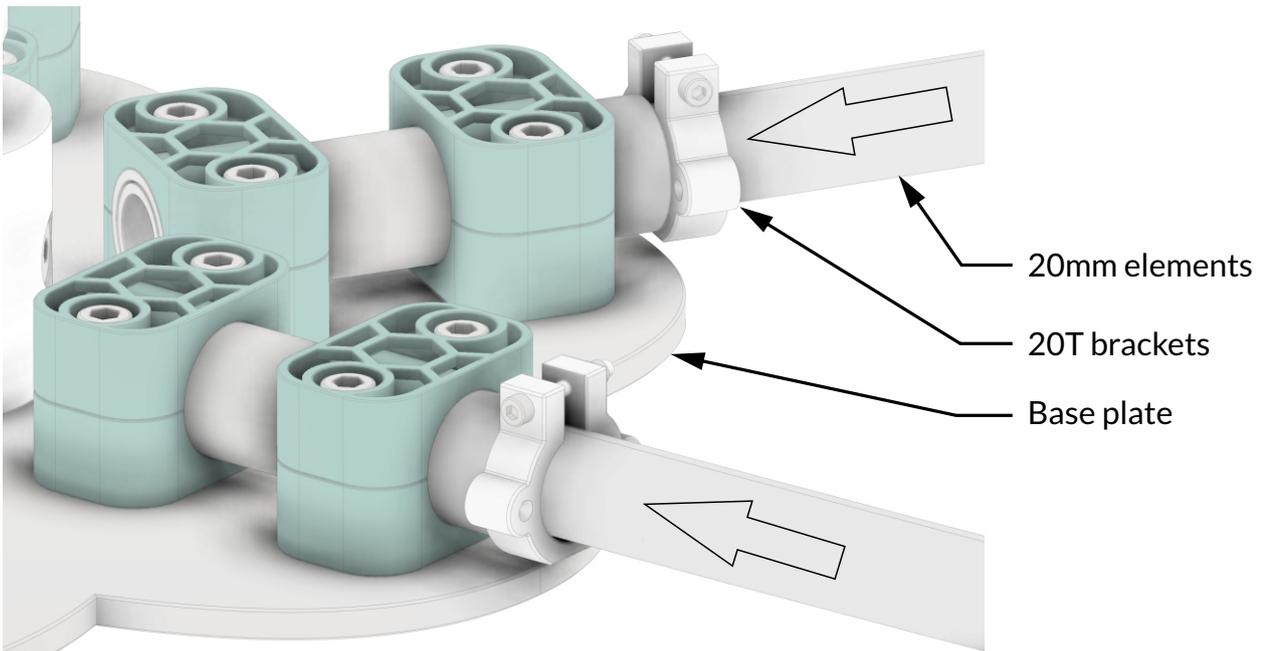
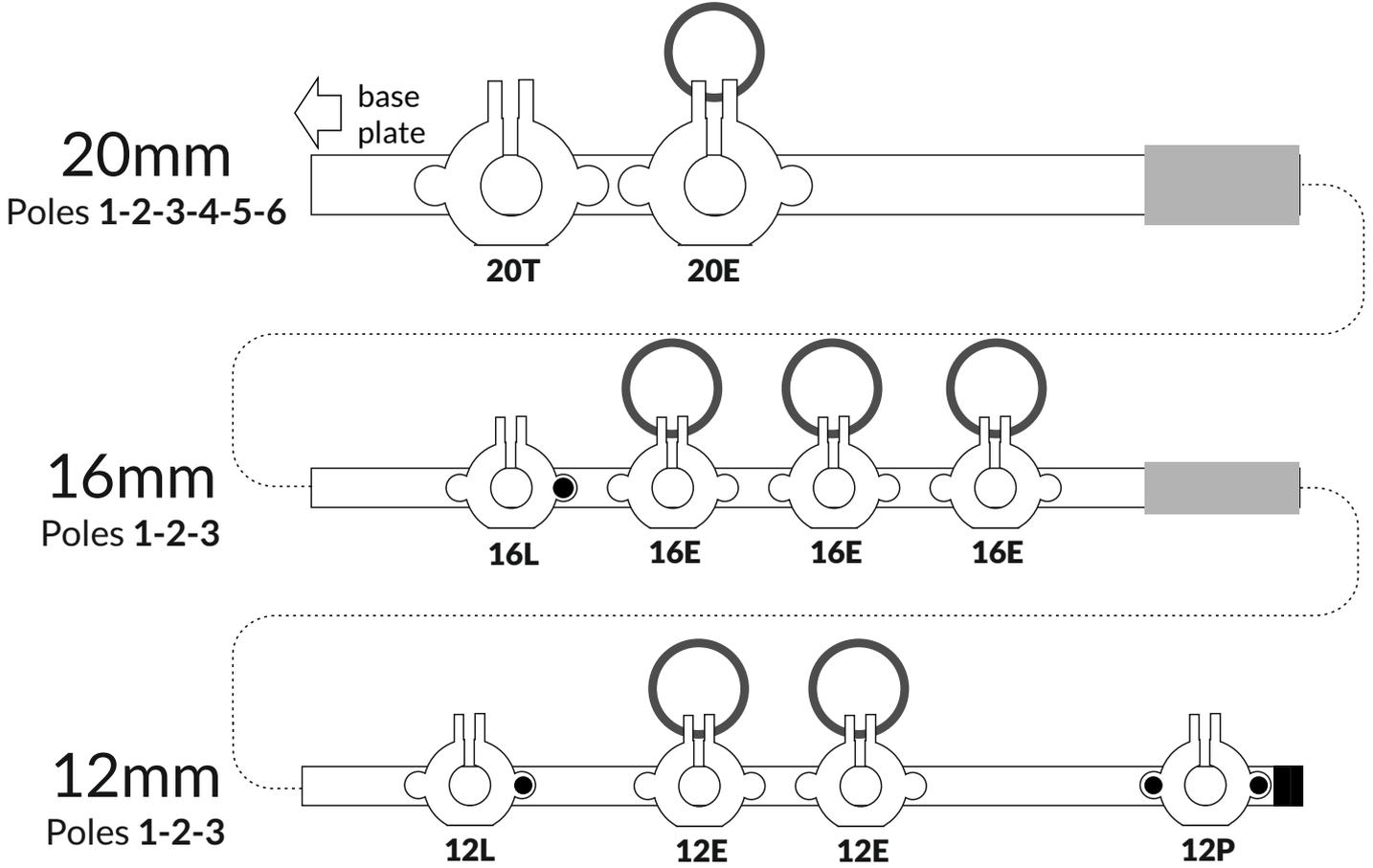
The **20T** bracket must face to the base plate and serves as inserting block when inserting the bottom end into the tubes on the base plate.

20E: These brackets are equipped with rings/eyelets to hold the antenna wires.

After you have assembled the 12-, 16- and 20 mm pole elements you can now insert them into tubes located at positions 1, 2 and 3 on the base plate.



2.3 Bracket locations on pole elementes # 1-2-3



2.4 Assembly of poles # 4-5-6

The assembly of the poles #4, 5 and 6 is almost identical to the previously assembled poles #1, 2 and 3.

In this building step, the single holes on one side of the brackets 12L and 16L are located on the **LEFT** side, seen from the bottom (figure 7-3).

When joining the 16 mm and 12 mm elements, please make sure that **the single holes of the brackets always point to the same side on each assembled element**. The 16 mm elements can be inserted into any of the 20 mm elements.

Push the elements into each other as far as they will go.

Finally, insert the assembled poles #4, 5 and 6 into the tubes located at positions 4, 5 and 6 on the base plate (figure 7-2).

When everything is correct, the single holes of the **12L and 16L brackets of poles 1 + 6 point towards each other**, as shown in figure 7-4:

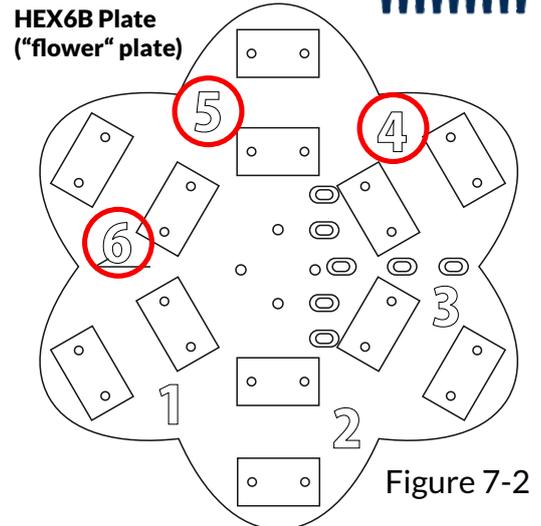


Figure 7-2

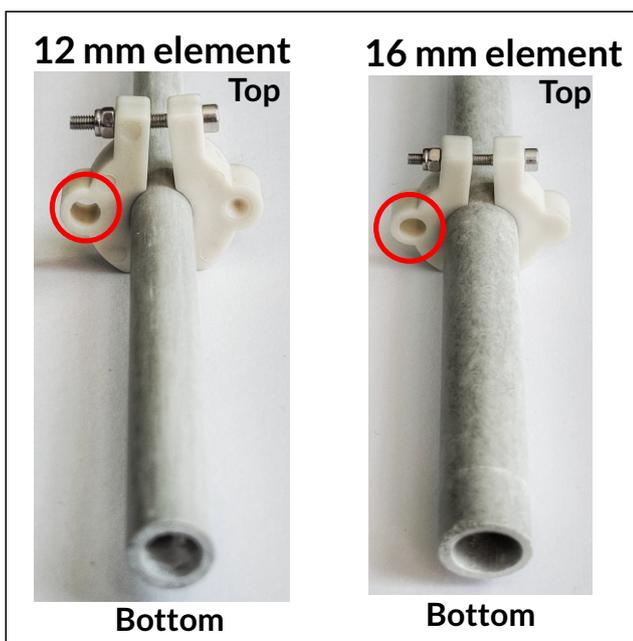


Figure 7-3

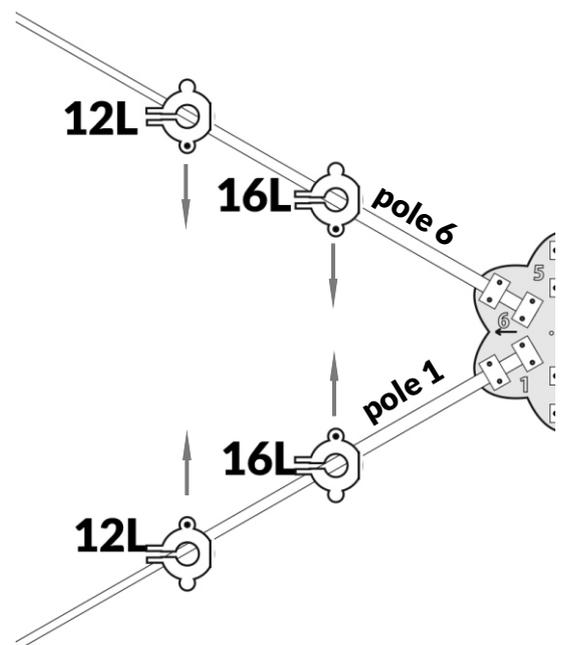
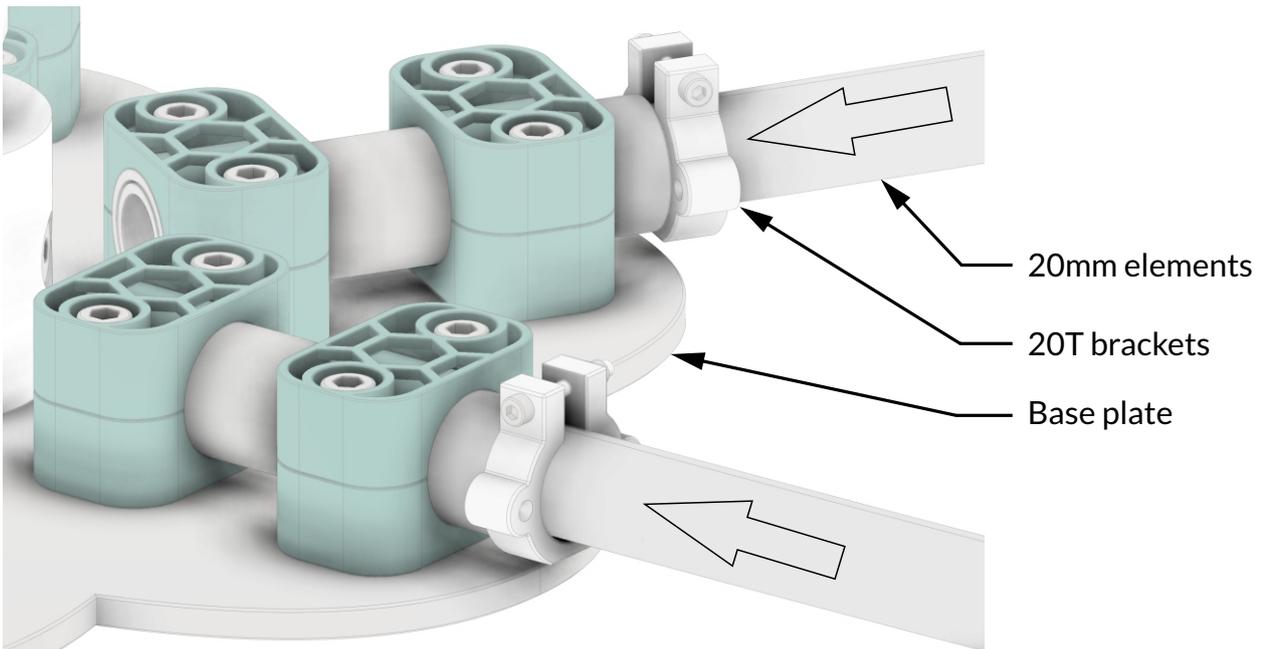
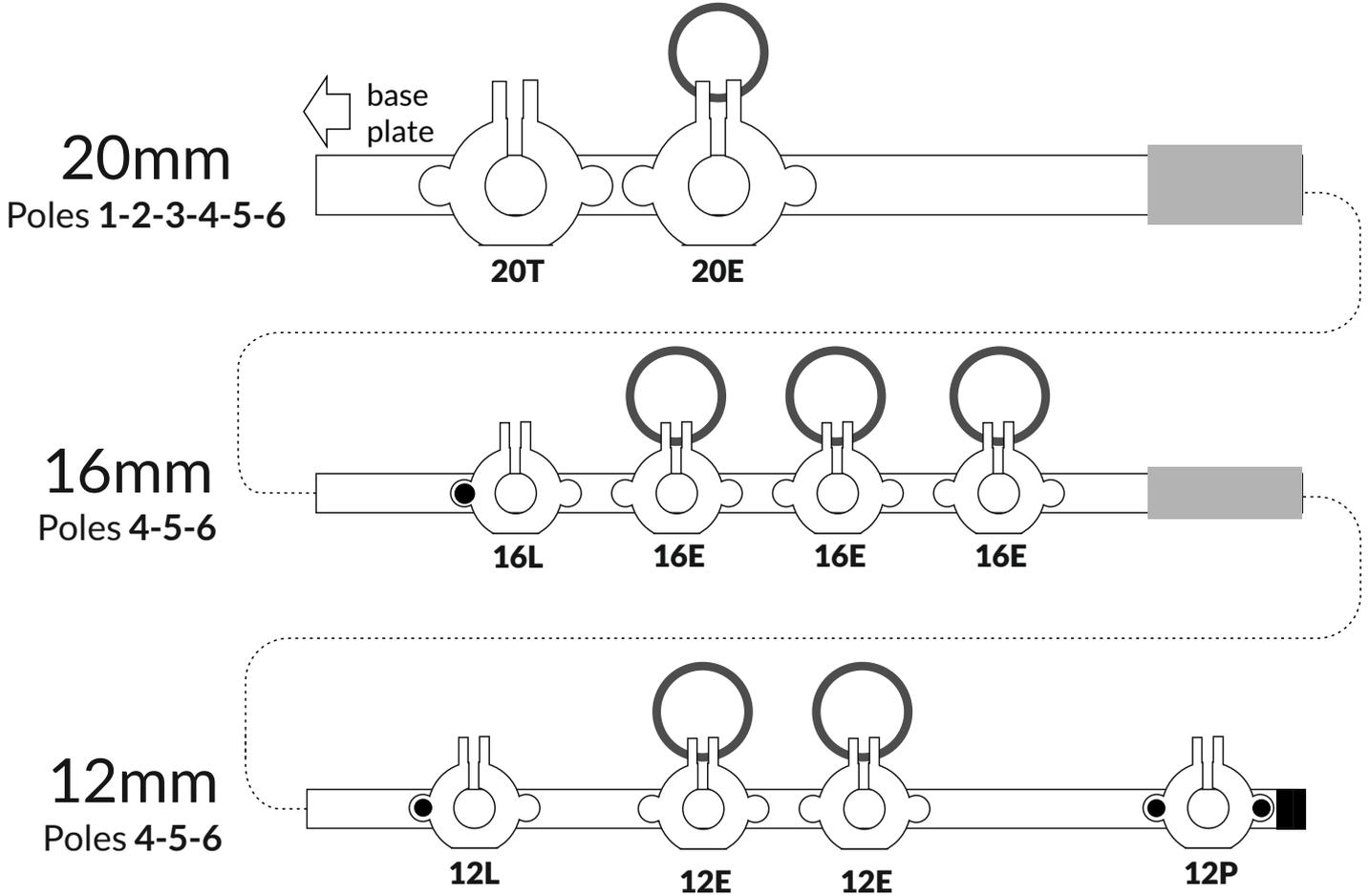


Figure 7-4



2.5 Bracket locations on pole elementes # 4-5-6



3. Mounting the support ropes



After all the poles are in place, please open the bags with the ropes where you will find:

- 6 ropes with yellow tape
- 6 ropes with red tape
- 1 rope with black tape
- 1 rope with white tape



- > The **6 yellow marked ropes** are used to connect the tips of the **12P** brackets (those with 2 holes) with each other between the 6 poles (figures 9-1 and 9-2).
- > The **6 red marked ropes** are attached to the bolts of the 12P brackets and have to be connected to the eyelets on top of the center post (figure 9-3).
- > The **black marked rope** connects the poles 1 and 6 in the **12L** brackets (figure 9-1).
- > The **white marked rope** connects the poles 1 and 6 in the **16L** brackets (figure 9-1).

Each rope is symmetric and equipped with a stainless steel snap ring for an easy assembly process.

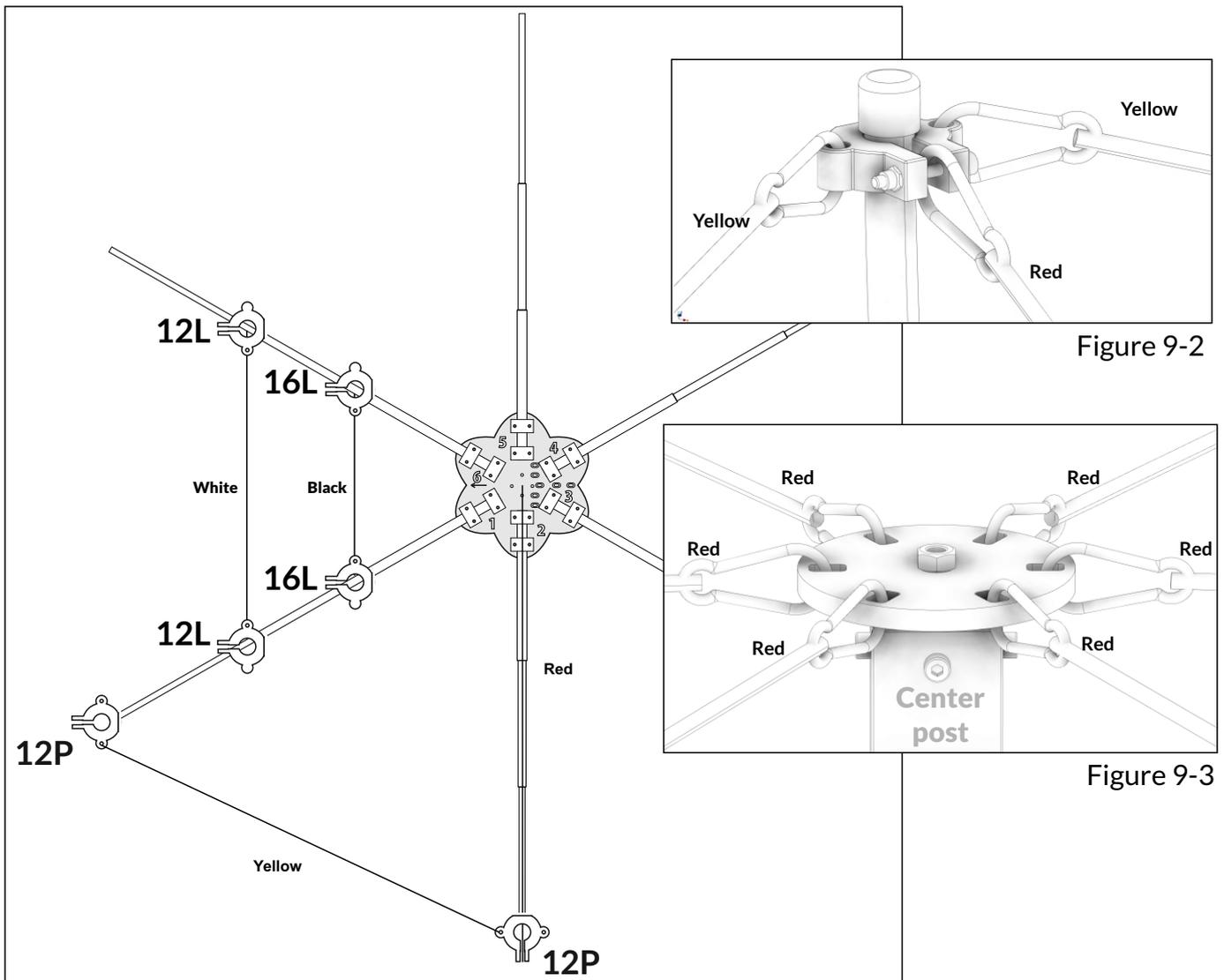


Figure 9-1



4. Mounting the wire elements

Once all the ropes are in place, open the bags with the wires for the 6-, 10-, 12-, -15-, 17- and 20m band and **start with 20 meters wire element**:

Mount the wire lug of one end to one of the 20m terminals of the center post (see page 4) and insert the complete wire element through all the uppermost 12E bracket-rings, that are located near the top of the 12mm pole elements (figure 10-1).

Important: If you start at pole 1, maintain the correct order to poles 2-3-4-5 and finally to 6. If you started at pole 6, use the reverse order, 6-5-4-3-2-1 to the terminal on the opposite site of the center post.

After you have accomplished the 20 m wire, continue with the next wire elements in the following sequence: 17, 15, 12, 10, 6m. Following this procedure, you will work from „top to bottom“.

Connect the lugs at the wire ends of each band to their associated terminals of the center post as shown in figure 10-2.

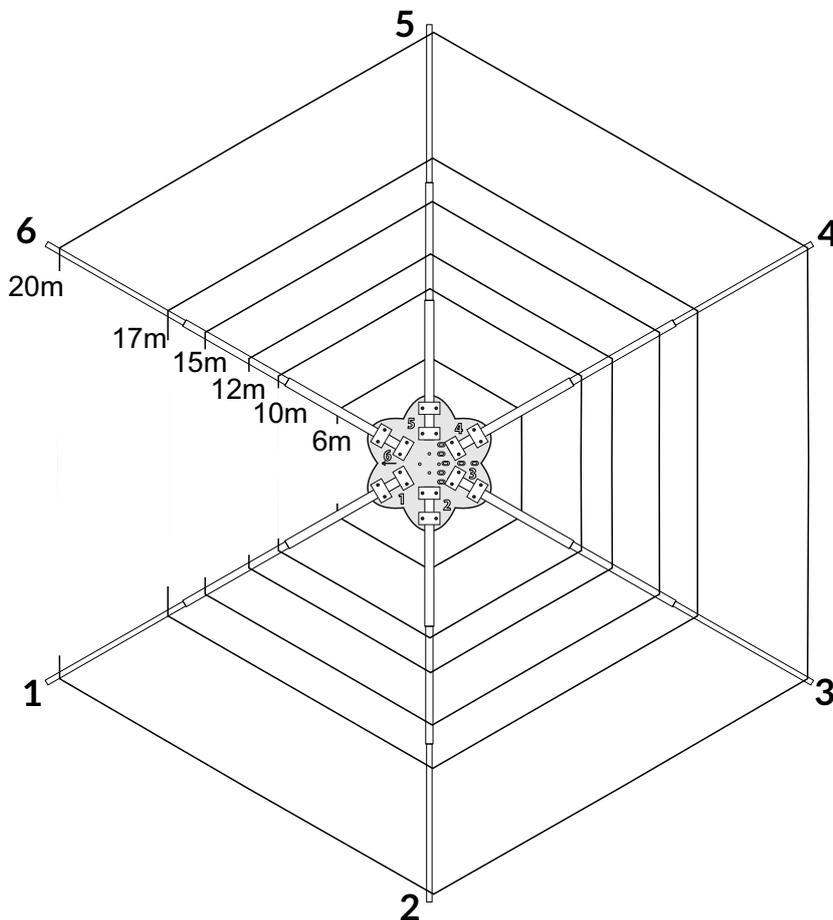


Figure 10-1

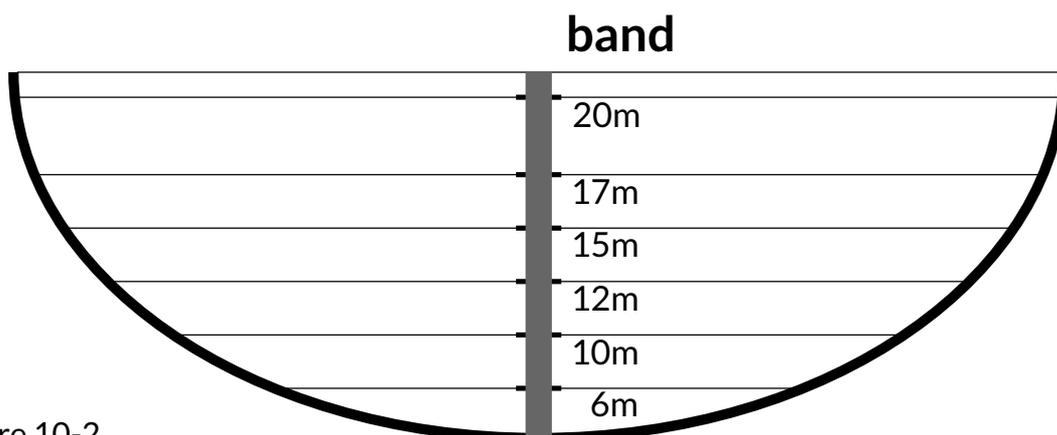


Figure 10-2

5. Mast mount

The below drawing shows how to position the mast “T” plate (EAHEXT). The base plate has 7 fixing points that match with the holes of the T plate. The required M6 socket head screws are pre-mounted in the mast to plate “T” plate. Remove these 7 screws from the T plate and put them through the 7 holes in the base plate, while moving it into position (figure 11.1).

When done, position the brackets (23035.50) on the “T” plate, insert the U-bolts (A-0163) and secure the assembly with spring washers M8 (S127-98) and nuts M8 (S934-98) as shown.

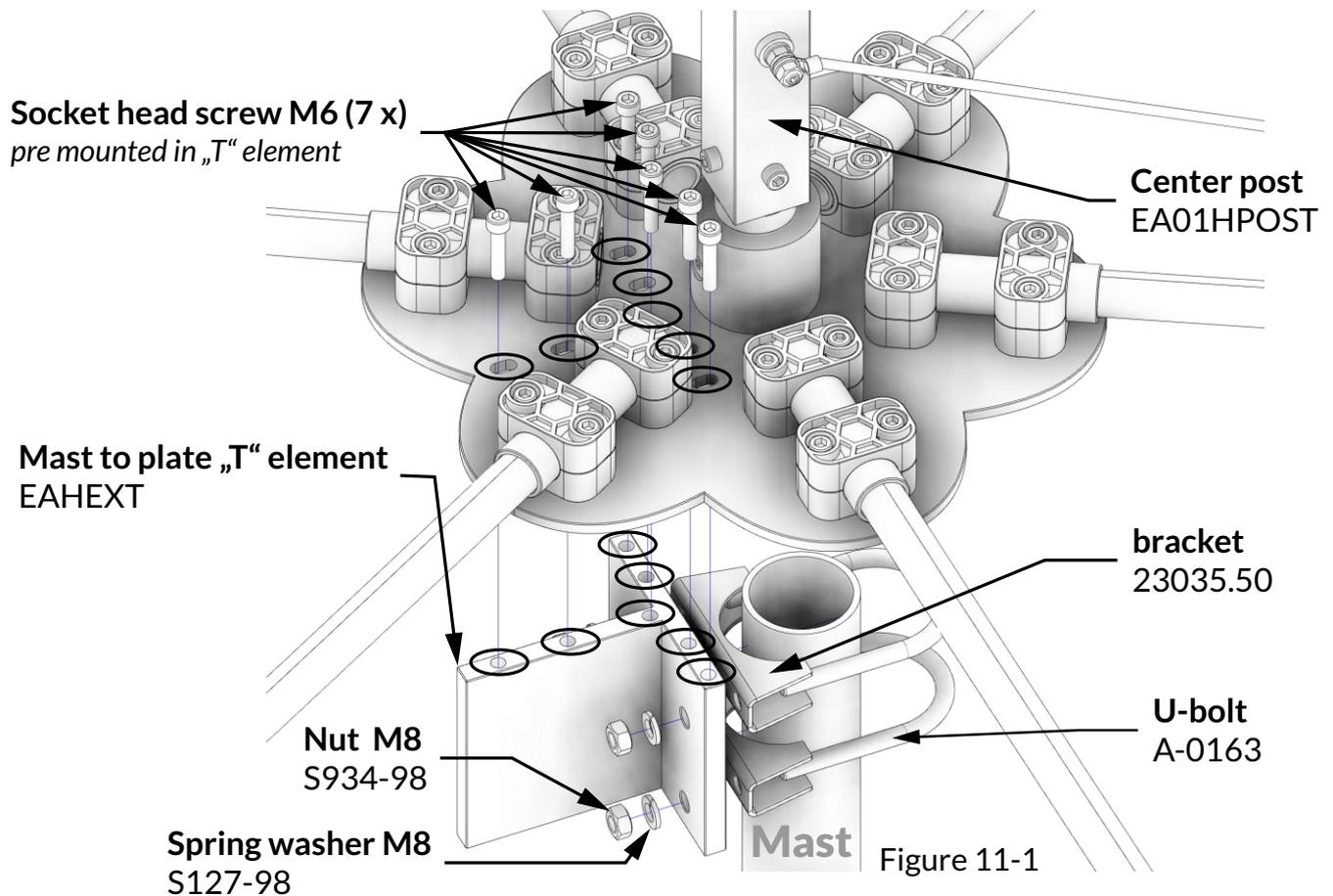


Figure 11-2:
Antenna mounted to the mast

Before tightening the screws of the base plate completely, center the mast with respect to the 4 lower screws, located in the middle of the base plate and then tighten the 7 screws firmly.

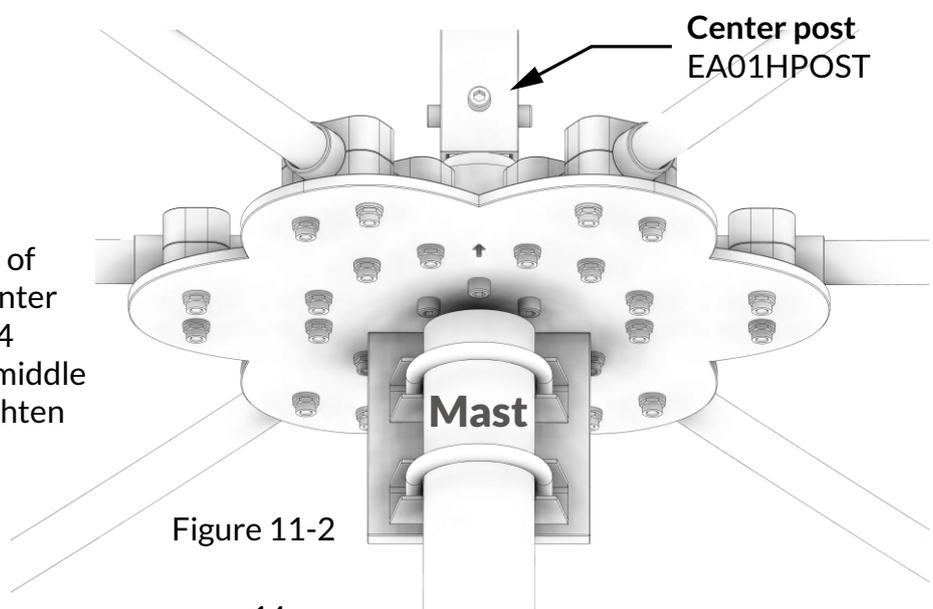
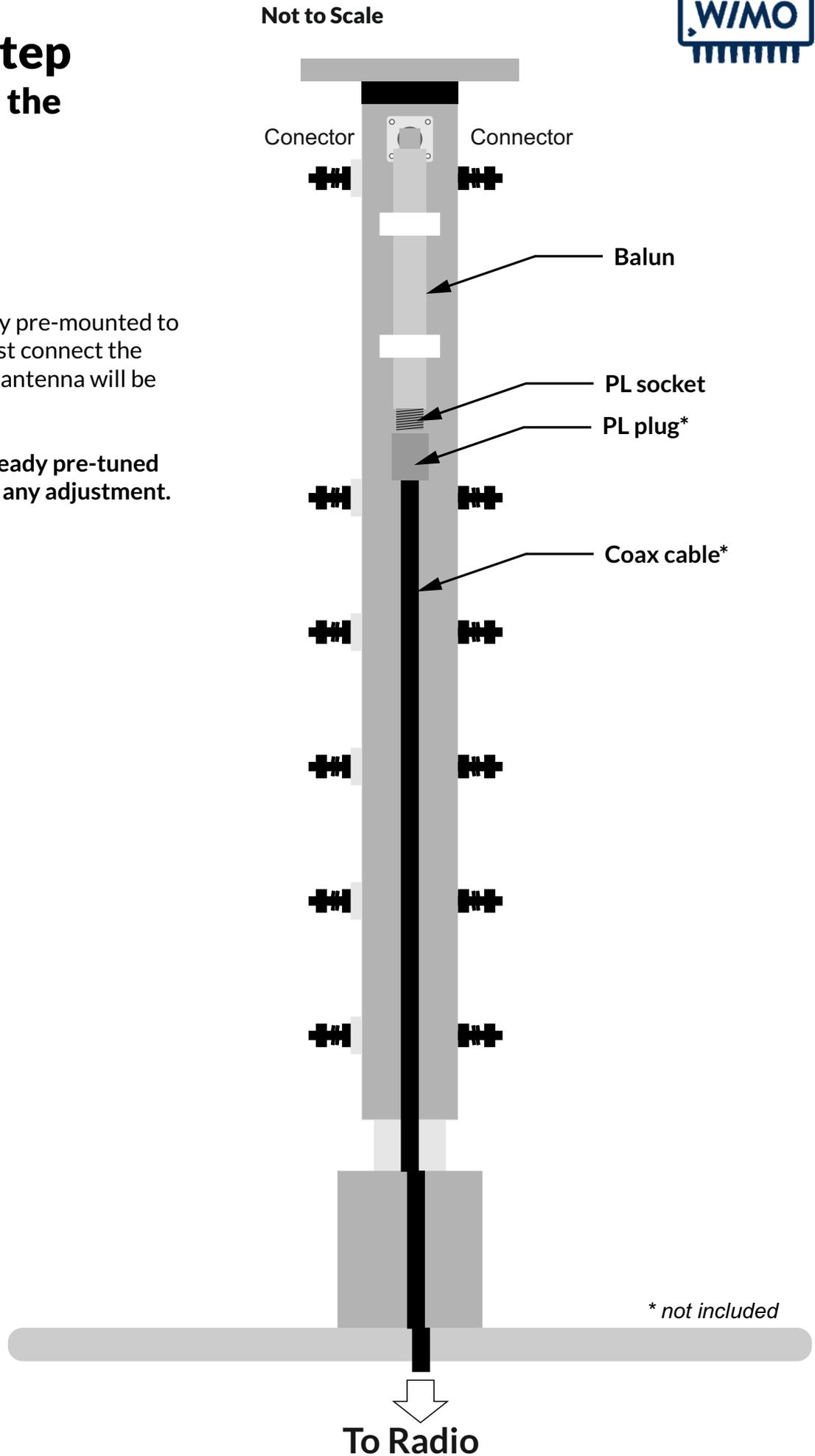


Figure 11-2

6. Final step Connecting the coax cable

The balun is already pre-mounted to the central post, just connect the coax cable and the antenna will be ready to transmit.

This antenna is already pre-tuned and does not need any adjustment.



Packing list

PART #	PART IMAGE	DESCRIPTION	DIMENSIONS	QUANTITY
EAHEXP12		12mm poles set		6
EAHEXP16		16mm poles set		6
EAHEXP20		20mm poles set		6
EAHEXROP		Rope set	6 x Red; 6 x Yellow 1 x Black, 1 x White	1
EAHEXWI6		Wire/element set of 6m		1
EAHEXWI10		Wire/element set of 10m		1
EAHEXWI12		Wire/element set of 12m		1
EAHEXWI15		Wire/element set of 15m		1
EAHEXWI17		Wire/element set of 17m		1
EAHEXWI20		Wire/element set of 20m		1
EAHEXT		"T" mast to plate mount		1
EA01HEXF		Base plate "flower"		1
EA01HPOST		Center post		1
A-0163		U-Bolt	M8 x 50 mm	2
23035.50		Bracket	50 mm	2
S127-98		Spring washer DIN 127	M8	4
S934-98		Nut DIN 934	M8	4
P1300001		Allen key	5 mm	1
P1300003		Wrench	10 mm	1