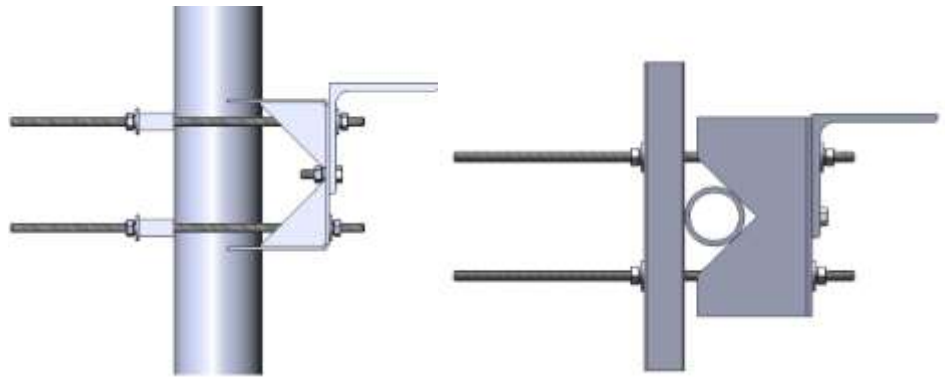


# UNIVERSAL MOUNTING SET (UMS.2) FOR EUROCONTRACTS FSO EQUIPMENT



**Installation and operation manual**

## 1. DESIGNATION AND COMPOSITION OF THE SET.

The present manual is meant for familiarizing with construction, mounting and operational regulations of the universal mounting set (further UMS or set). A concrete supplied set can insignificantly differ from the one described in the given document because of the constant perfection of its construction aimed at its operation ability improvement and mounting simplification. The main designation of the set is in safe fixing of the combined transmitting-receiving modules of the Eurocontracts FSO equipment on various bearings: metal structures, walls and roofs of buildings, parapets of roofs etc.

Use of the set allows practically in any conditions of mounting to provide safe bearing surface for mounting FSO equipment manufactured by Eurocontracts s.r.o..

UMS can also be used for mounting other types of equipment, used for outside and inside applications like housing – video monitoring cameras, radio relay stations and other devices which require mounting onto horizontal surfaces according to their construction. The set is meant for continuous operation in the open air. Table 1 shows admissible conditions of UMS operation.

| Parameter   | Value |
|---|-------|
| Load-carrying capacity when installed on a horizontal-dimensional surface, kg                             | 100   |
| Load-carrying capacity when installed on a vertical surface, kg   | 70    |
| The maximum cross-sectional area-established industrial equipment at a wind speed 50 m / s,m <sup>2</sup> | 0,5   |
| Weight, kg  | 9,5   |
| Typical installation time, min  | 30    |
| Lifetime, years   | 20    |

Table 1 – Operational condition.

The product is designed for continuous operation in open air. UMS kit includes all the necessary parts and fasteners for installation. UMS comes packaged in a cardboard box on 1 or 2 pieces, packaging may be in a group container.

UMS kit items includes:

- 1 – Angle bar (8 pieces)
- 2 – Bail (1 piece)
- 3 – Bracket (1 piece)
- 4 – Short lath (2 pieces)
- 5 – Long lath (1 piece)
- 6 – Screw – Plug (4 pieces)
- 7 – Bolt M10x40 (4 pieces)
- 8 – Stud M10x400 mm (4 pieces)
- 9 – Stud M10x200 mm (2 pieces)
- 10 – Bolt M10x40 (4 pieces)
- 11 – Nut M10 (18 pieces)
- 12 – Washer-grower (16 pieces)
- 13 – Washer (20 pieces)

The completeness of UMS is presented on Fig.1.

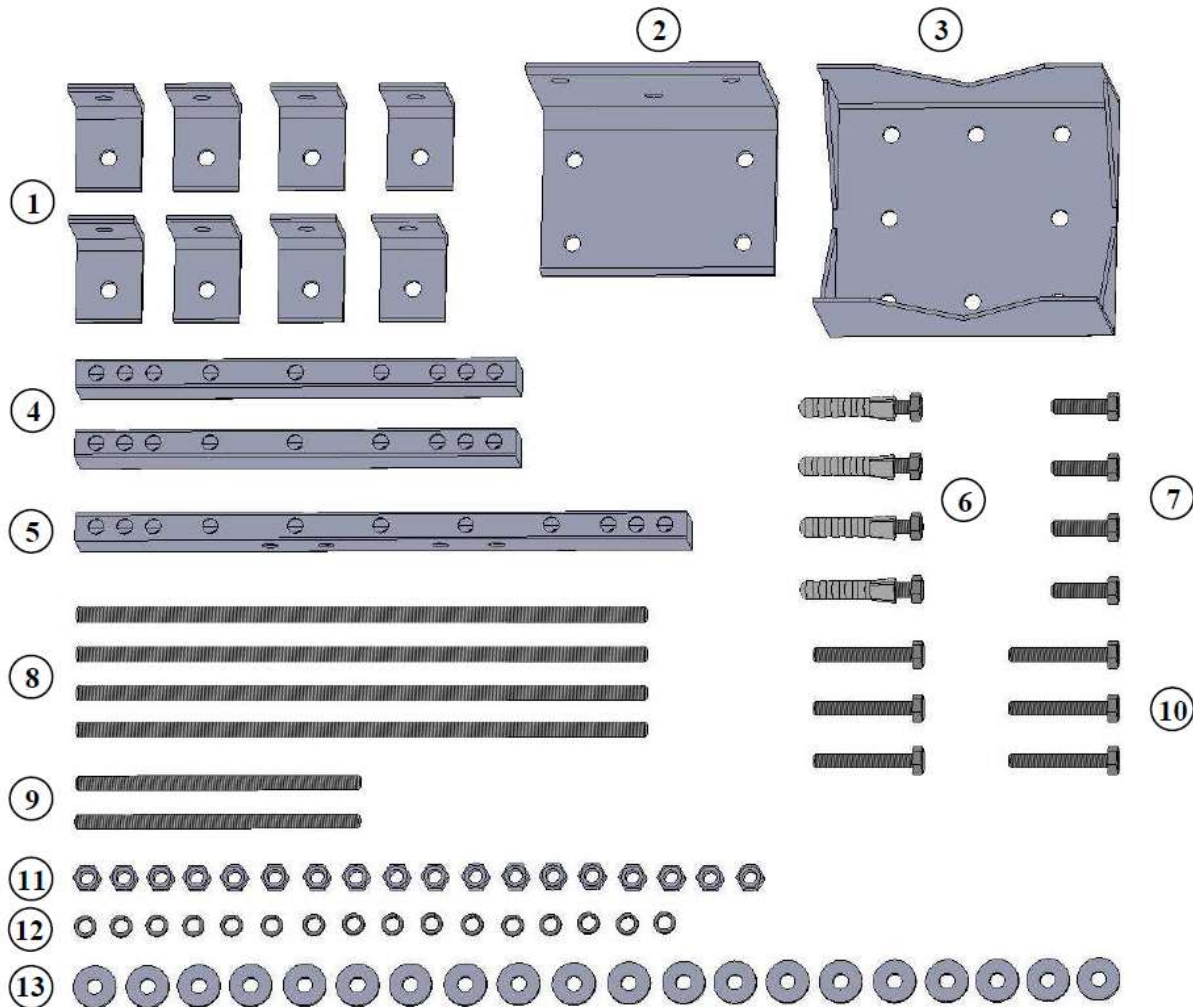


Fig. 1. The completeness of UMS

## 2. SAFETY REQUIREMENTS.

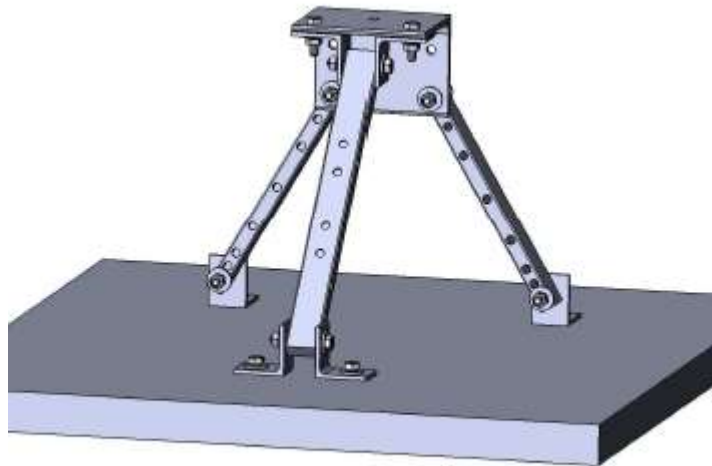
When mounting and operating the set there should be observed general safety engineering regulations accepted in the institution (at the enterprise) of the user. This work can be carried out by the qualified workers, preliminary having studied the present service instruction and also the normative documents on the safety engineering corresponding to location and way of mounting. To work and servicing of the set there are admitted persons taught and certified in the sphere of labor safety in accordance with the requirements of the normative documents of the organization performing the mounting and operation of the set. As UMS is mounted and operated in the upper part of buildings and constructions, works on mounting, dismantling and operation of the set, with the object to provide safe work environment, should be carried out with the observance of safety requirements to working at altitude. When placing the set, with the object to protect the equipment mounted on it, zones of protection of lightning divertors of buildings and constructions should be taken into consideration. It's recommended grounding UMS after installation.

## 3. UMS MOUNTING.

When choosing an installation location convenient to consider the guidance Eurocontracts FSO equipment after it is installed on the UMS. To mount the product on the steel structures, such as

towers, masts and fixing it requires only two wrench the 17 mm size of any type. When installing UMS on capital facilities made of brick or concrete additionally required hammer and drill or rotary hammer drill with a diameter of 14 mm and working length of 80 mm for mounting with screws, dowels. Previously, prior to installation, we recommend UMS or parts of it to collect in a convenient location, and then mounted on the pipe walls, etc.

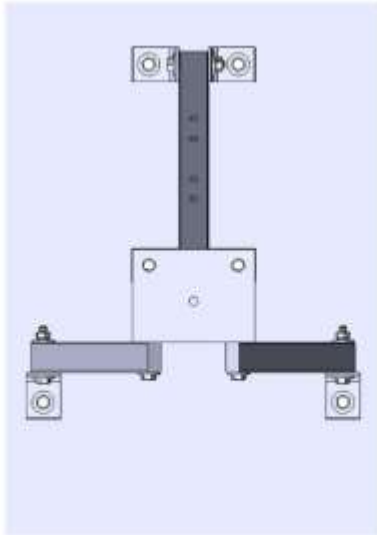
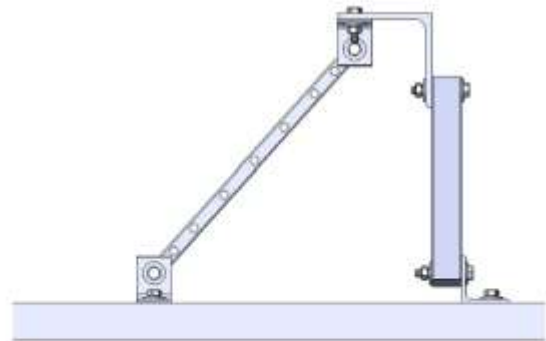
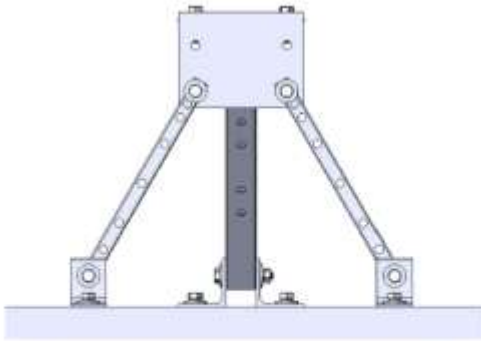
### 3.1. Mounting onto the horizontal surface.



Parts list:

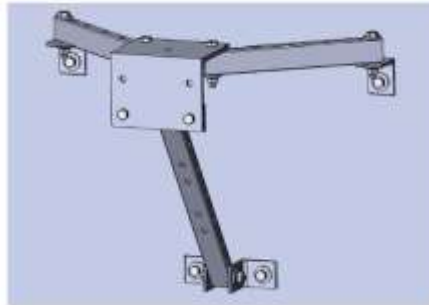
1. Angle bar - 6 pieces.
3. Bracket - 1 piece.
4. Short lath - 2 pieces.
5. Long lath - 1 piece.
5. Bolt M10x40 - 2 pieces.
6. Bolt M10x70 - 6 pieces.
7. Nut M10 - 8 pieces.
9. Spring washer - 12 pieces.
10. Washer – 16 pieces.
12. Screw – Plug - 4 pieces.

This type of fixing is used when mounting onto concrete roofs and other horizontal or sloping surfaces, for instance, onto slope of a roof. When using UMS as a bearing of the FSO equipment, the admissible angle of slope is 30 degrees. The way of mounting is shown on the following figure:



If a rafter roof is used as a bearing surface, it's recommended to use studs (item 10) from the supplied set instead of screw – plugs (item 8), drill through the roof and attract angle bars with their assistance. After mounting the set there should be provided measures of dampproofing of the drilled places, for instance, one should put silicon hermetic under the angle bars (item 1).

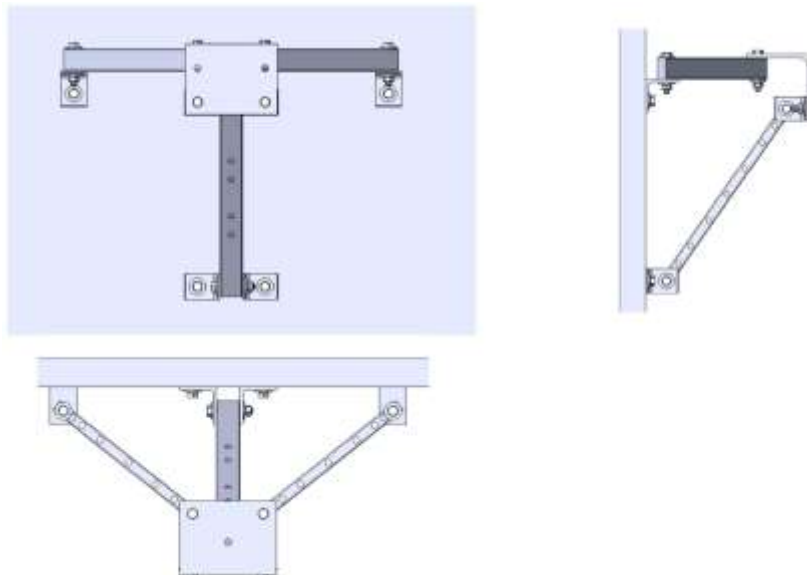
### 3.2. Mounting on the vertical surface.



Parts list:

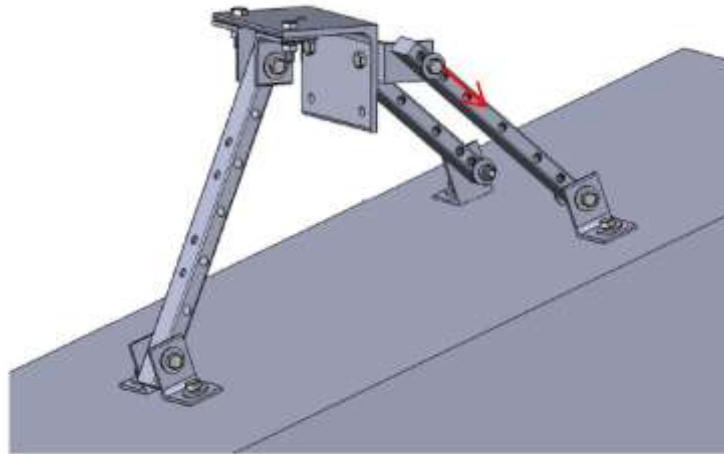
1. Angle bar - 6 pieces.
2. Bracket - 1 piece.
3. Short lath - 2 pieces
4. Long lath - 1 piece.
5. Bolt M10x40 - 4 pieces
6. Bolt M10x70 - 6 pieces
7. Nut M10 - 8 pieces.
8. Spring washer - 12 pieces.
9. Washer – 16 pieces.
10. Screw – Plug - 4 pieces.

The given type of fixing is used when mounting onto the walls of buildings and constructions, bulkheads on the roofs, concrete fences etc. The way of mounting is shown on the following figure:



If the mounting is carried out onto thin brickwork (0.5 of a brick) or near the upper edge of a wall, it's recommended to use studs (item 6) from the supplied set instead of screw – plugs (item 12), drill through the roof and attract angle bars with their assistance.

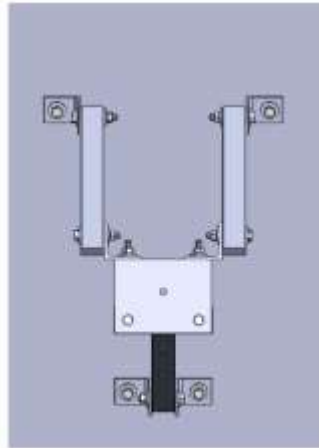
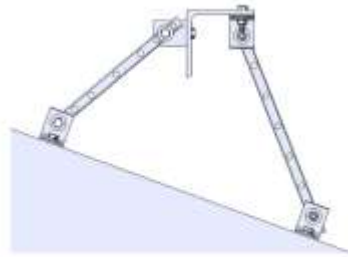
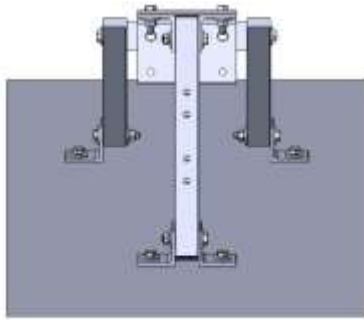
### 3.3. Set on an incline.



#### Parts list:

1. Angle bar - 8 pieces.
2. Bracket - 1 piece.
3. Short lath - 2 pieces.
4. Long lath - 1 piece.
5. Bolt M10x40 - 4 pieces.
6. Bolt M10x70 - 6 pieces.
7. Nut M10 - 8 pieces.
8. Spring washer - 14 pieces.
9. Washer – 20 pieces.
10. Screw – Plug - 4 pieces.

This type of mounting used for installation on sloping surfaces (roofs, gables of buildings). When using UMS as the backbone of the TRM, as shown in the figure but a permissible tilt angle is 30 degrees. In the case of a greater angle (90 degrees ) is recommended to fasten planks short (position 3) to the upper corners (position 1) through the other openings of these rods (arrow). The projections of this mounting method are shown in the following figure:



**3.4. Fixing on pipe mounts of small diameter.**

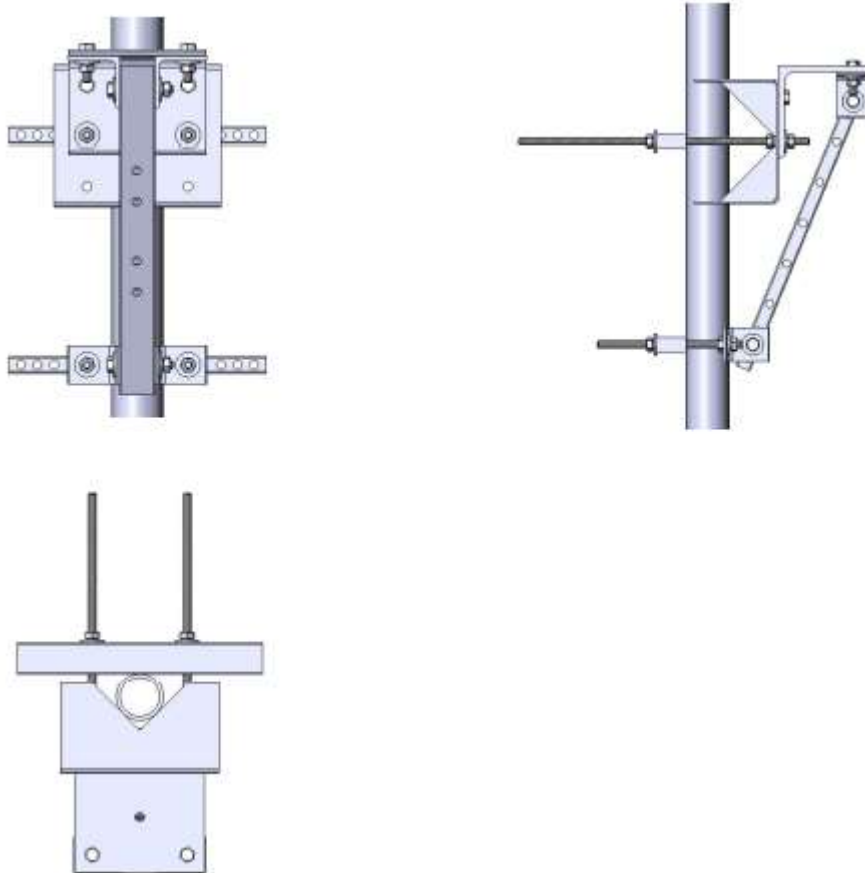




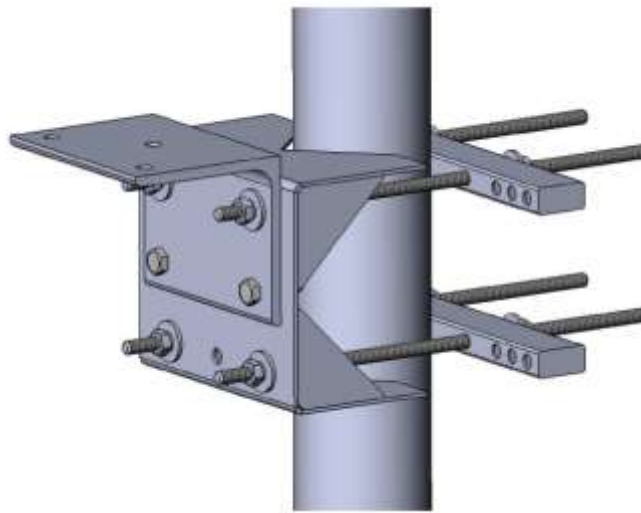
Parts list:

1. Angle bar - 4 pieces.
2. Bail – 1 piece.
3. Bracket - 1 piece.
4. Short lath - 2 pieces.
5. Long lath - 1 piece.
6. Bolt M10x40 - 4 pieces.
7. Bolt M10x70 - 2 pieces.
8. Nut M10 – 18 pieces.
9. Spring washer - 16 pieces.
10. Washer – 16 pieces.
11. Stud M10x200 - 2 pieces.
12. Stud M10x400 - 2 pieces.

This type of fixing is used when mounting UMS onto pipe mounts of the diameter from 50 up to 80 mm, and also onto other metalwares having similar section, for instance, on bearing angle bars or square pipes. The way of mounting is shown on the following figure:



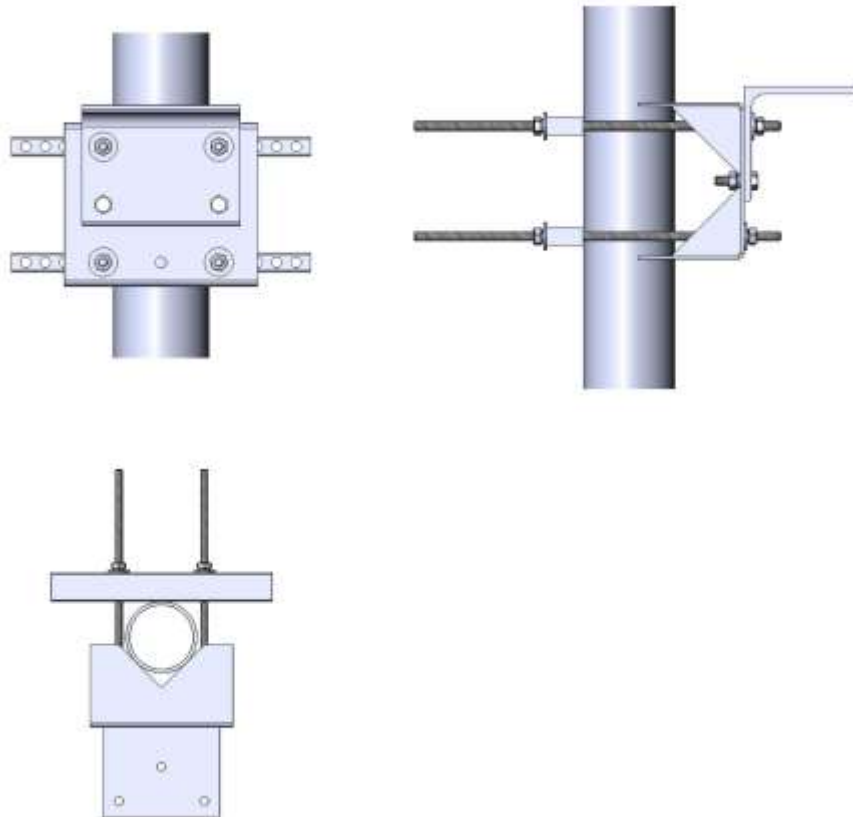
### 3.5. Fixing on pipe mounts of increased size.



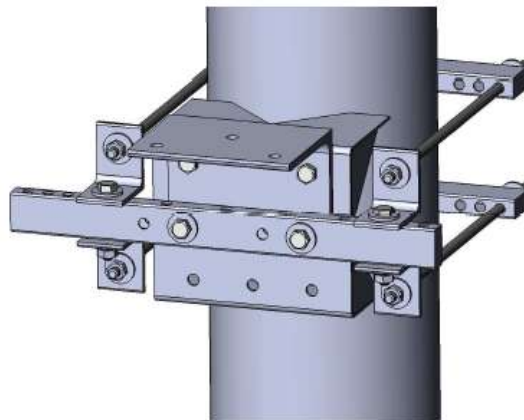
Parts list:

1. Bail – 1 piece.
2. Bracket - 1 piece.
3. Short lath - 2 pieces.
4. Bolt M10x40 - 2 pieces.
6. Nut M10 – 14 pieces.
7. Spring washer - 10 pieces.
8. Washer – 10 pieces.
9. Stud M10x400 mm - 4 pieces

The given type of fixing is used when mounting UMS onto pipe mounts of the diameter from 80 up to 110 mm, and also onto other metalwares having similar section, for instance, onto bearing elements of cellular communication rigs. The way of mounting is shown on the following figure:



### 3.6. Fixing on pipe mounts of big size.

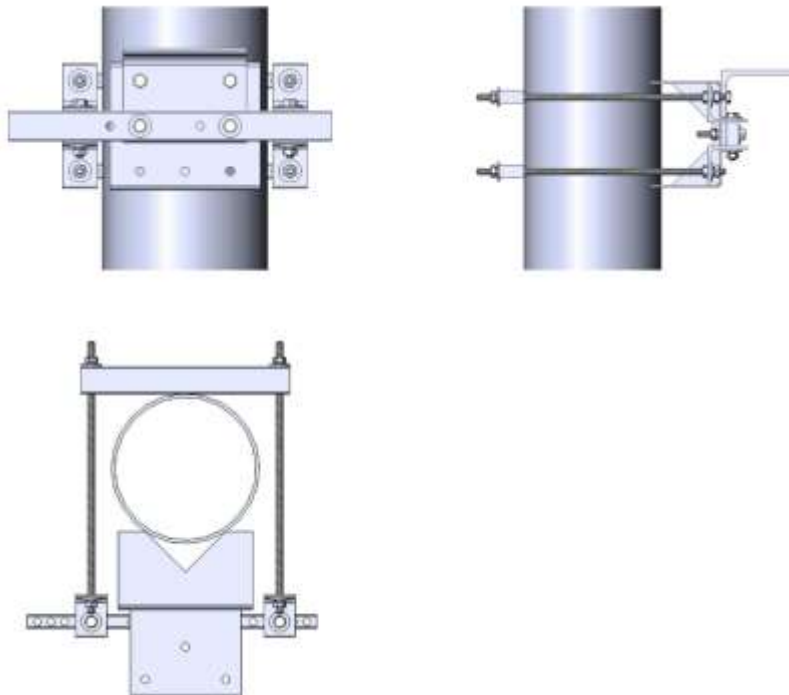


#### Parts list:

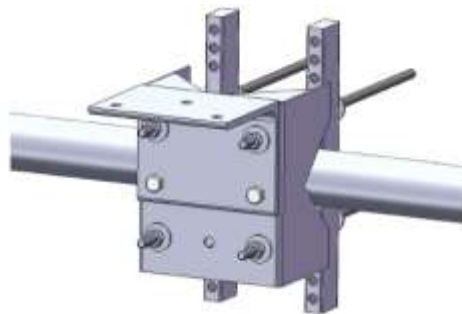
1. Angle bar - 4 pieces.
2. Bail – 1 piece.
3. Bracket - 1 piece.
4. Short lath - 2 pieces.
5. Long lath - 1 piece.
6. Bolt M10x40 - 2 pieces.
7. Bolt M10x70 - 4 pieces.
8. Nut M10 – 18 pieces.

- 9.Spring washer - 14 pieces.
- 10.Washer – 18 pieces.
- 12. Stud M10x400 - 4 pieces.

The given type of fixing is used when mounting UMS onto pipe mounts of the diameter from 110 up to 270 mm, and also onto other metalwares having similar section, for instance, onto bearing elements of cellular communication rigs. The way of mounting is shown on the following figure:



### 3.7. Fixing on horizontal pipe.



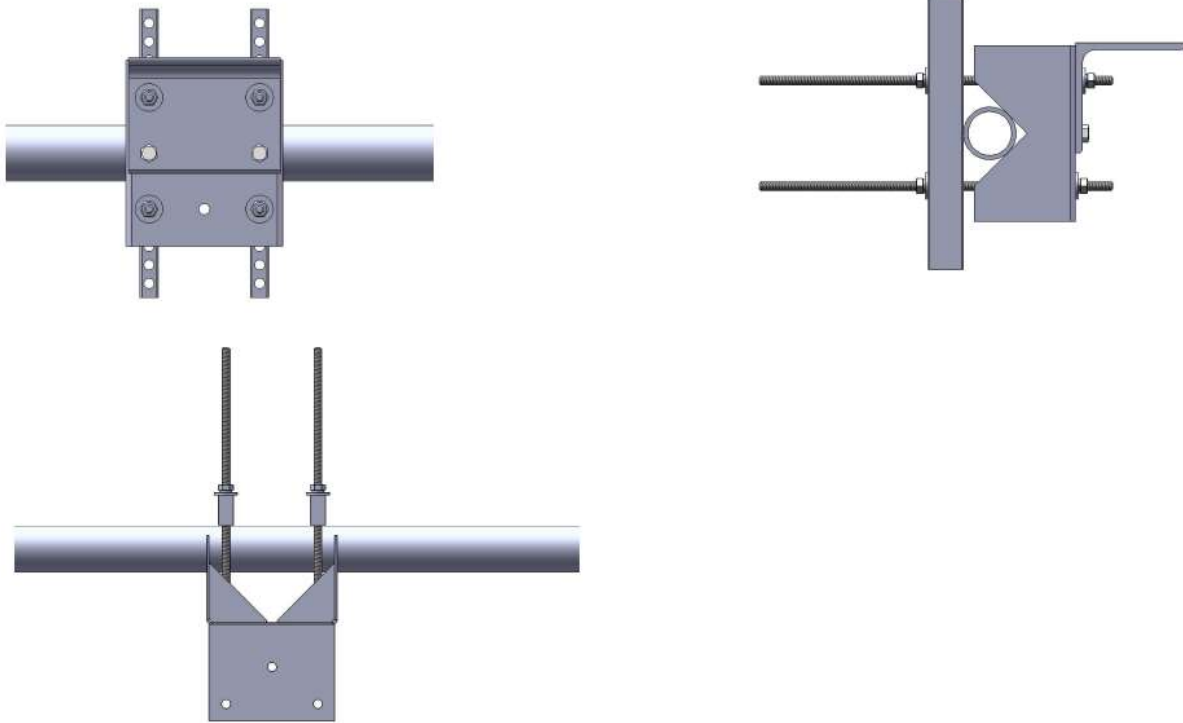
Parts list:

- 1.Bail – 1 piece.
- 2.Bracket - 1 piece.
- 3.Short lath - 2 pieces.
- 4.Long lath - 1 piece.
- 5. Bolt M10x40 - 2 pieces.
- 6. Nut M10 – 14 pieces.
- 7.Spring washer - 10 pieces.

**8. Washer – 10 pieces.**

**9. Stud M10x400 - 4 pieces.**

The given type of fixing is used when mounting UMS onto horizontal pipe of the diameter from 50 up to 110 mm, and also onto other metalwares having similar section. The way of mounting is shown on the following figure:



#### **4. CONCLUSION.**

Given in Section 3 mounting methods UMS are not exhaustive. Set of parts belonging to the UMS is flexible enough and allows you to mount the product in other conditions not listed in this document.

Speakers of the studs, if desired, can be cut to an appropriate tool before or after installation. In case of difficulties with the installation of UMS and consolidating it Eurocontracts FSO equipment TRM to send to the Eurocontracts description of the installation location (preferably with photos) with dimensions to work out the issue and make recommendations.