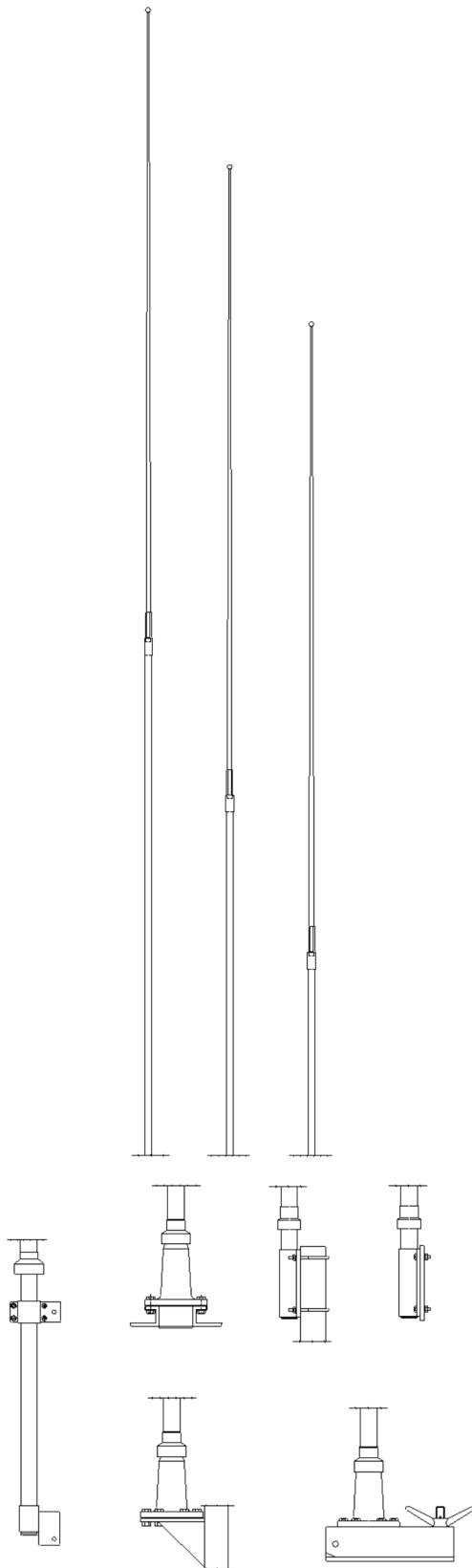


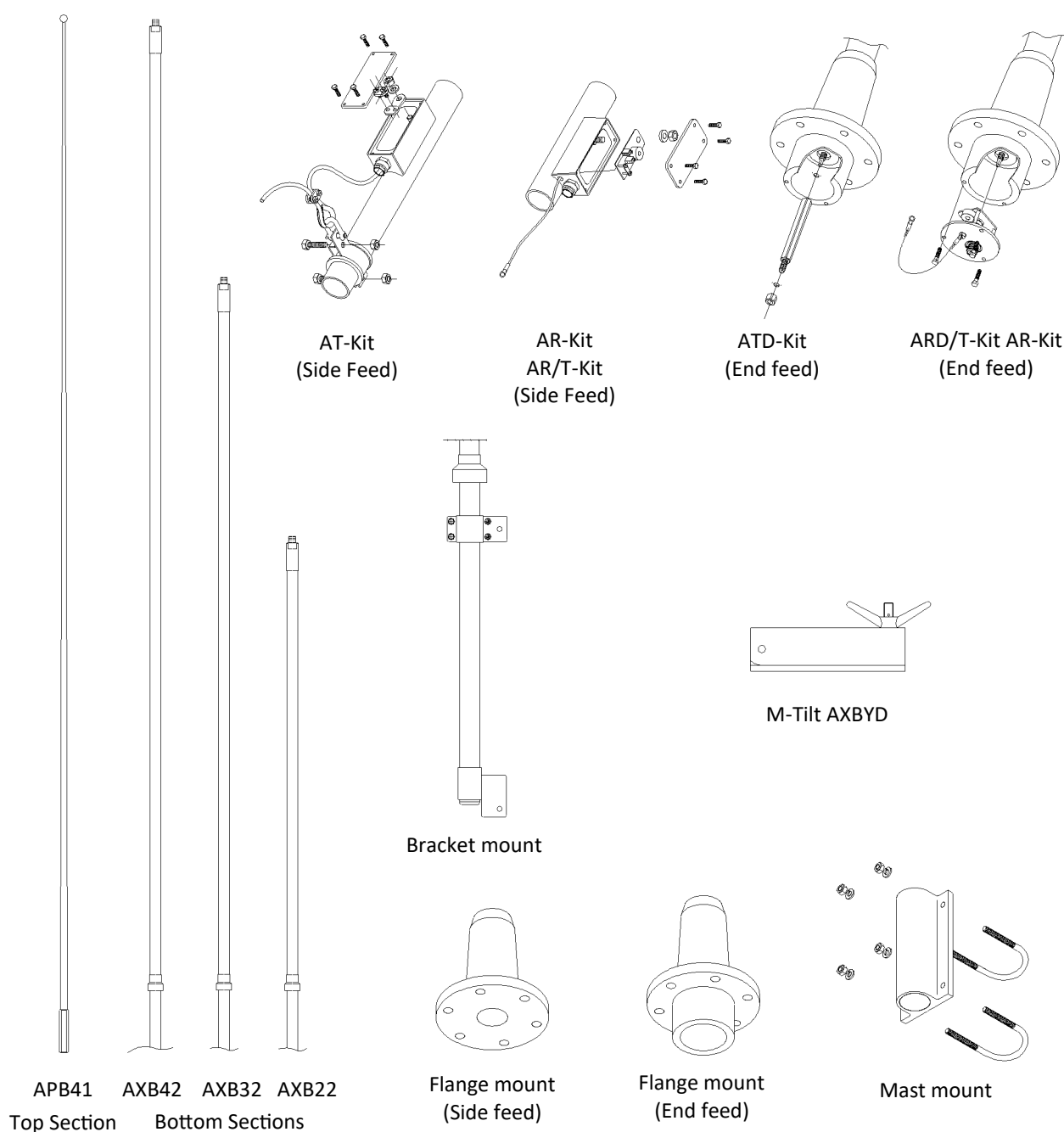


## High quality, high performance fiberglass rod antennas

### Transmitting antennas for simplex and duplex SSB

#### Application

- The modular MF-HF antenna system is our answer to the Global Maritime Distress and Safety System (GMDSS).
- The antennas can be used as part of any MF/HF communication system but are specially designed to satisfy the demands of the GMDSS.
- Depending on the equipment and the traffic pattern of the vessel you can choose between antennas of 6, 7 or 8 m length.
- Different installations demand different mounting solutions. The modular system provides you with all the solutions you need:
  - ◆ Installation on a mast, tube or directly to a bulkhead wall.
  - ◆ Installation onto welded brackets.
  - ◆ Flange or deck mounting with side feed.
  - ◆ Flange or deck mounting with end feed.
  - ◆ Flange mounted versions with side feed can be fitted with a manual or electrical tilting bracket (see page 6).
- The antennas can be equipped with connecting kit for transmitting/transceivers (AT-Kit) or a kit for receiving (AR-Kit). The receiving kit can be supplied with a matching transformer (AR/T-Kit).
- Receiving antennas can be supplied with protection against static discharges that can harm the receiver.



### Top Whip

A 4 m (13 ft) top whip, APB41, is common to all antennas.

### Bottom section

The bottom section comes in three possible lengths 2, 3 and 4 m ( 6.7, 10 and 13 ft). For different mounting options, see the page 5 & 6.

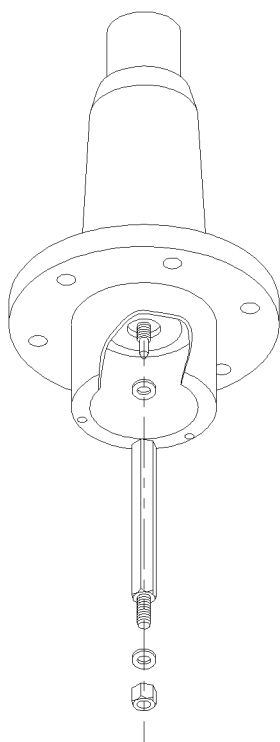
### Connecting kit

There are 3 different connecting kits, AT, AR and AR/T. The AT is a transmitting/ transceiving kit while the AR is a receive only kit. The AR/T is a receiving kit with matching transformer (useful when a long cable is required).

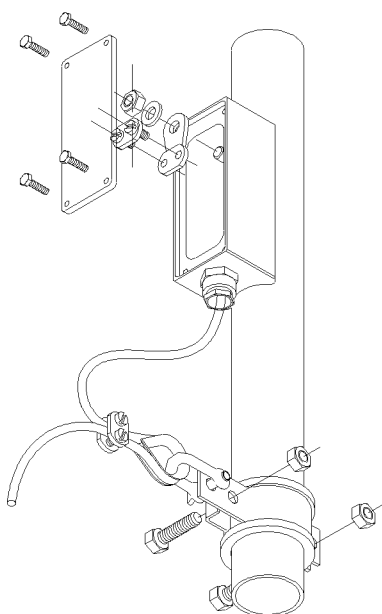
### MT-Tilt

The M-Tilt is a manual tilting mechanism that allows you to tilt (lower) flange mounted side feed versions . Comrod can also supply an electrical tilting mechanism.

**ATD-Kit  
(End Feed)**



**AT-Kit  
(Side Feed)**



### Electrical specifications (transmitting antennas)

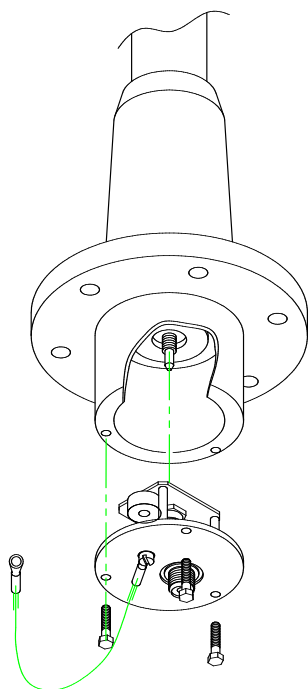
|                   |                                                                                                                                                                                                           |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency range   | 1.6-30 MHz                                                                                                                                                                                                |
| Power rating      | 1.5 kW PEP                                                                                                                                                                                                |
| Impedance         | See table below                                                                                                                                                                                           |
| Polarization      | Vertical                                                                                                                                                                                                  |
| Pattern           | Omnidirectional                                                                                                                                                                                           |
| Electrical length | 5.5 m (18 ft) (add 0.5 m (1.7 ft) for base mount)<br>6.5m (21 ft) (add 0.5 m (1.7 ft) for base mount)<br>7.5 m (25 ft) (add 0.5 m (1.7 ft) for base mount,<br>subtract 0.7 m (2.1 ft) for bracket mount). |

### Impedance Measurements

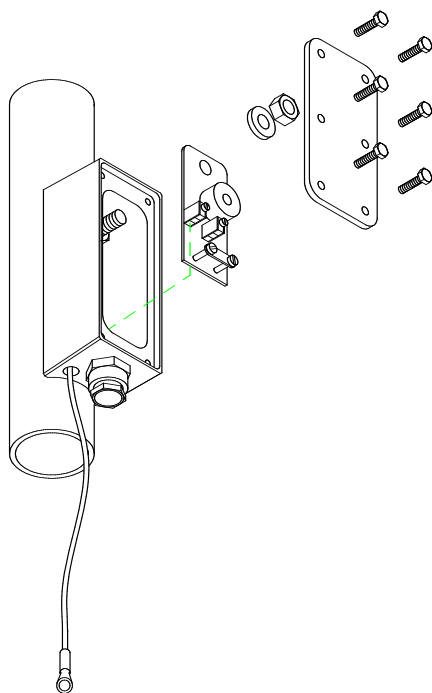
Antenna mounted on a 2m steel pipe over flat steel roof. Feed line 2m.

| Frequency<br>(MHz) | Transmitting<br>Antenna<br>6 m | Transmitting<br>Antenna<br>7 m | Transmitting<br>Antenna<br>8 m |
|--------------------|--------------------------------|--------------------------------|--------------------------------|
| 1.6                | 3-j1.310                       | 3-j1.200                       | 4-j1.060                       |
| 2.0                | 4-j1.025                       | 4-j950                         | 5-j800                         |
| 3.0                | 7-j970                         | 8-j550                         | 9-j470                         |
| 4.0                | 9-j410                         | 10-j325                        | 11-j290                        |
| 5.0                | 17-j260                        | 18-j200                        | 20-j145                        |
| 6.0                | 20-j150                        | 25-j95                         | 28-j38                         |
| 7.0                | 35-j65                         | 40-j10                         | 55+j55                         |
| 8.0                | 40+j30                         | 50+j90                         | 60+j155                        |
| 10.0               | 100+j190                       | 130+j270                       | 200+j400                       |
| 12.0               | 600+j450                       | 650+j450                       | 1000+j300                      |
| 16.0               | 1000+j200                      | 900-j500                       | 500-j500                       |
| 18.0               | 700-j500                       | 400-j500                       | 250-j450                       |
| 22.0               | 200-j400                       | 90-j280                        | 70-j80                         |
| 25.0               | 90-j195                        | 75-j10                         | 240-j200                       |
| 30.0               | 200+j150                       | 500+j0                         | 400-j300                       |

ARD-Kit  
(End Feed)



AR-Kit  
(Side Feed)



Electrical specifications (receiving antennas)

|                   |                                                                                                                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency range   | 0.15-30 MHz                                                                                                                                                                                                              |
| Polarization      | Vertical                                                                                                                                                                                                                 |
| Pattern           | Omnidirectional                                                                                                                                                                                                          |
| Electrical length | 6m: 5.5 m (18 ft), (add 0.5 m (1.7 ft) for base mount)<br>7m: 6.5m (21.5 ft), (add 0.5 m (1.7 ft) for base mount)<br>8m: 7.5 m (25 ft), (add 0.5 m (1.7 ft) for base mount<br>subtract 0.7 m (2.1 ft) for bracket mount) |

Transformers for receiving antennas

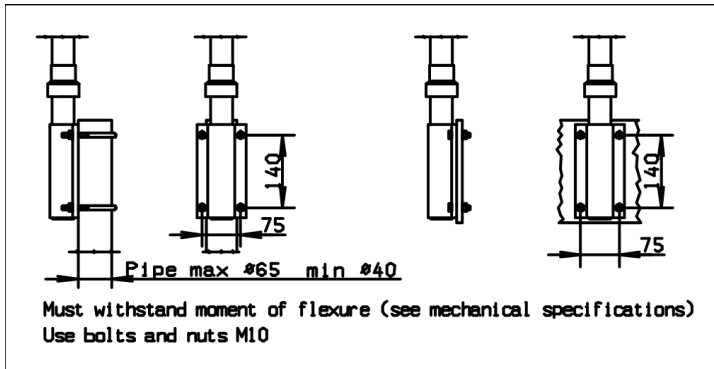
As being used in e.g AR82M/T, when a long feeding cable is necessary, a transformer is recommended to compensate for the signal strength loss in the cable. A transformer is also recommended if the antenna is used mainly on low frequencies.

The transformer is mounted on a circuit board that is easily installed. For specifications please refer to separate datasheet.

Mechanical specifications (transmit and receive antennas)

|                             |                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Design                      | Self supporting fiberglass rod with aluminium or HMC mounting hardware.                                                                                                                                                                                                                                                                                          |
| Height                      | 6 m: (20 ft)<br>7 m: (23 ft)<br>8 m: (27 ft)                                                                                                                                                                                                                                                                                                                     |
| Weight                      | 6 m: 7.0 kg<br>7 m: 7.6 kg<br>8 m: 8.2 kg                                                                                                                                                                                                                                                                                                                        |
| Sections                    | 6 m: Base: AXB22 Bracket<br>End feed: AXB22D flange<br>Side feed: AXB22D/S Flange, side feed<br>Top: APB41<br>7 m: Base: AXB32 Bracket<br>End feed: AXB32D Flange<br>Side feed: AXB32D/S Flange, side feed<br>Top: APB41<br>8 m: Base: AXB42 Bracket<br>End feed: AXB42D Flange<br>Side feed: AXB42D/S Flange<br>Side feed: AXB42H Welded brackets<br>Top: APB41 |
| Wind rating                 | 55 m/s = 125 mph                                                                                                                                                                                                                                                                                                                                                 |
| Moment of flexure           | 6 m: 53.3 kpm at 55 m/s<br>7 m: 75.3 kpm at 55 m/s<br>8 m: 93.7 kpm at 55 m/s                                                                                                                                                                                                                                                                                    |
| Deflection due to wind load | 6 m: 2.4 m (8 ft) at tip ball at 55 m/s wind load<br>7 m: 3.4 m (11 ft) at tip ball at 55 m/s wind load<br>8 m: 4.6 m (15 ft) at tip ball at 55 m/s wind load                                                                                                                                                                                                    |
| Finish                      | Polyurethane lacquer, white                                                                                                                                                                                                                                                                                                                                      |
| Temperature range           | -55 °C, +55 °C, -67° F, +131 °F                                                                                                                                                                                                                                                                                                                                  |
| Water Proofing              | IP67                                                                                                                                                                                                                                                                                                                                                             |
| Ice build-up                | Not affected                                                                                                                                                                                                                                                                                                                                                     |

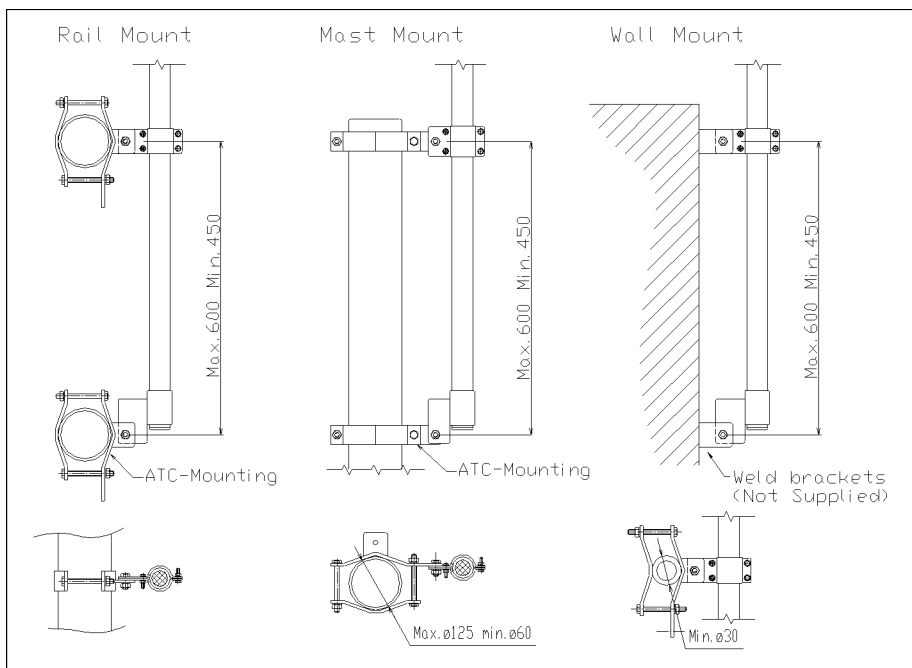
## MOUNTING



### Mast/wall mounting

Versions: AT82M, AT72M, AT62M  
AR82M, AR72M, AR62M  
AR82M/T, AR72M/T, AR62M/T

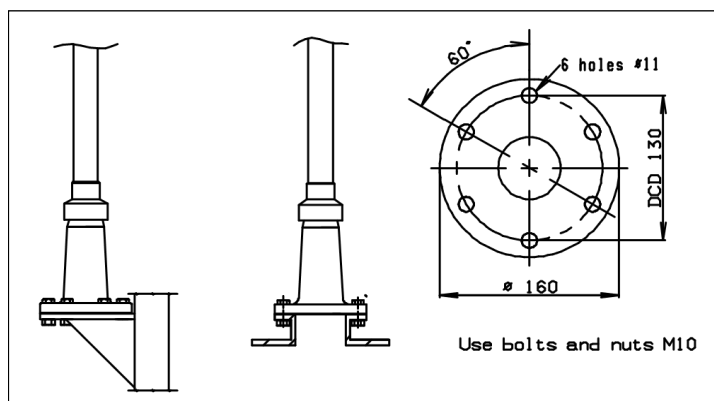
Mounting by means of U-bolts with nuts (included) or directly on wall or steel plate.



### Mounting to weld brackets

Versions: AT82H  
AR82H

Mounting by means of 2 x M10 bolts to weld brackets or to a mast or rail by means of the ATC-mounting (included).

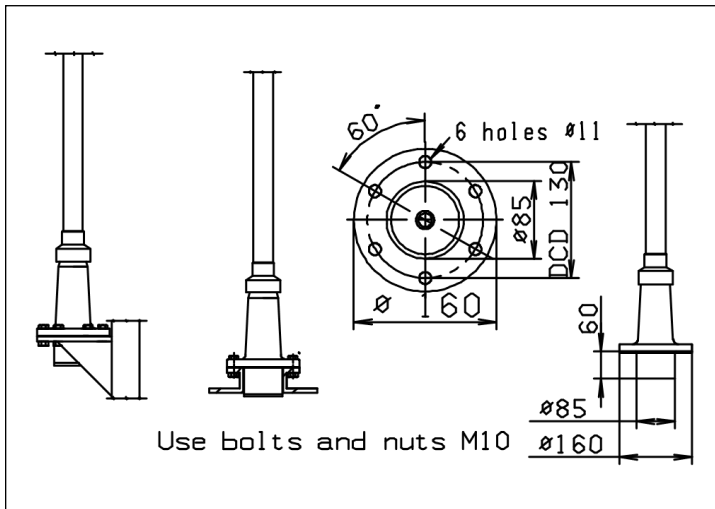


### Base mount, side feed

Versions: AT82D/S, AT72D/S, AT62D/S  
AR82D/S, AR72D/S, AR62D/S  
AR82D/S/T, AR72D/S/T, AR62D/S/T

Mounting on deck or flange by means of 6 x M10 bolts.

## MOUNTING (cont.)

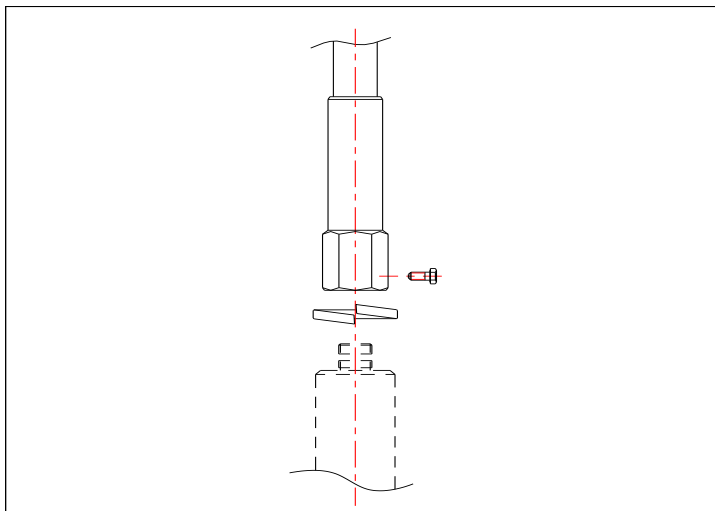


### Base mount, End feed

Versions: AT82D, AT72D, AT62D  
AR82D, AR72D, AR62D  
AR82D/T, AR72D/T, AR62D/T

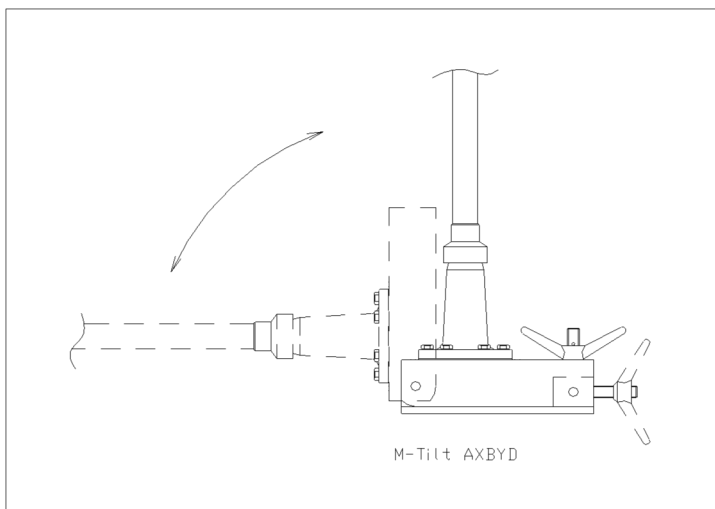
Mounted on a flange or bracket.

Cable is connected with a UHF female connector on the receive antennas.



### Mounting of top whip

In order to mount the whip to the base section, use the spring washer and firmly screw the whip and base section together using a torque of 200 Nm. The Grub screw is then tightened, this prevents the top whip from unscrewing.



### Optional tilting mechanism for base mount side feed versions

M-Tilt (AXBVD) - Manual tilting bracket.

M-Tilt is mounted on deck or pedestal by means of 4 x M12 bolts. Mountings to the antenna via 6 x flange holes. M10 x 40 bolts, nuts and washers are included as part of the tilt kit.