

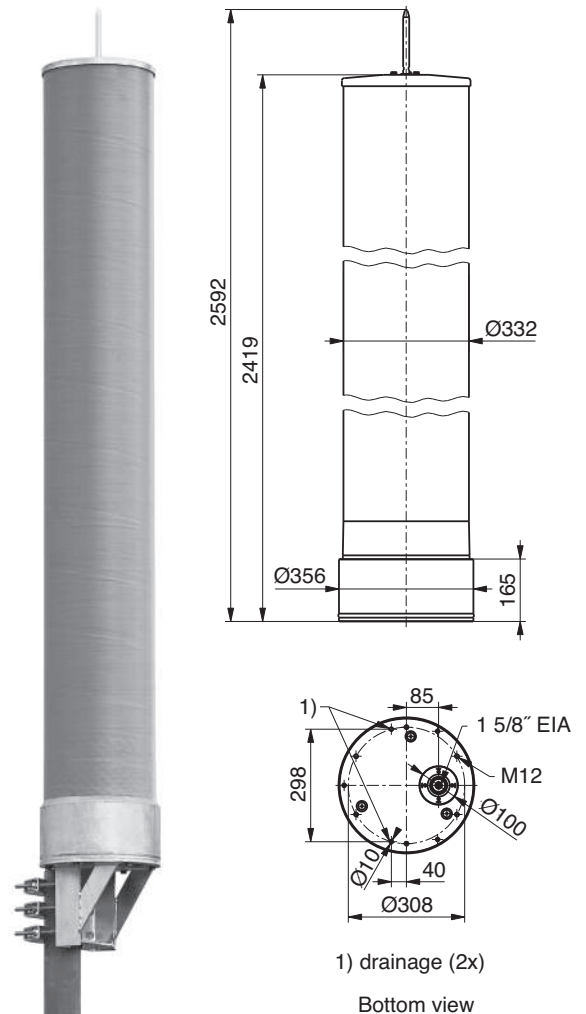
- Broadband omnidirectional antenna.

Order No.	75010067
Input	1 5/8" EIA flange
Max. power	5 kW (at 40 °C ambient temperature)
Frequency range	470 – 862 MHz
VSWR	< 1.1
Gain (at mid-band)	8 dBd
Vertical 3 dB beam width	13°
Impedance	50 Ω
Polarization	Horizontal
Weight	70 kg
Wind load (at 160 km/h)	590 N
Max. wind velocity	240 km/h

**Material:** Omnidirectional antenna in protective fiberglass radome with a diameter of 332 mm.  
Radome color: Light grey (RAL 7035).  
Flange: Hot-dip galvanized steel.

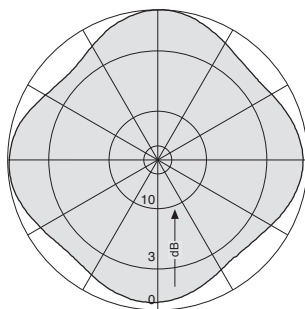
**Attachment:** Onto a fitting counterflange or to tubular masts by using the optional steel adapter 75310322 (to be ordered separately).

**Grounding:** Via mounting parts.

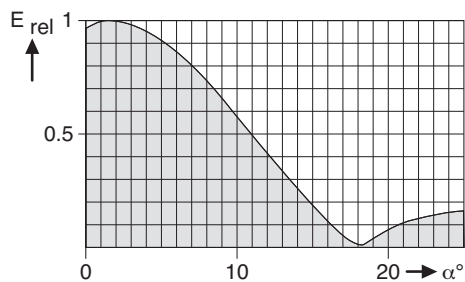


Picture shows antenna with optional steel adapter 75310322

### Radiation Patterns (at mid-band)



Horizontal Radiation Pattern



Vertical Radiation Pattern  
1.5° electrical downtilt

## Mounting notes:

Cylindrical structures can show crosswind response due to vortex excitations.

According to EN 1991-1-4 or EN 1993-3-1 fatigue calculations are required for structures having cylindrical parts. So a fatigue analysis must be carried out by a stress engineer for the supporting structure (mast) with the antenna.

## Antenna 75010067:

length of cylindrical part: 2.419 m  
diameter of cylinder: 0.332 m

The antenna can be considered as a cantilever with uniform mass distribution and an additional mass at the bottom (flange level) of the antenna:

length: 2.419 m  
stiffness E·I:  $9.5 \cdot 10^5 \text{ Nm}^2$   
mass per length: 20 kg/m  
mass at bottom: 20 kg  
logarithmic decrement of damping: 0.07

The antenna is not fatigue critical in accordance with EN 1993-1-9.

Fixing: 6x M12 grade 8.8, tightening torque 70 Nm

## Steel adapter 753 10322:

The adapter of steel can be considered as a beam with:

boundless length: 0.07 m  
stiffness E·I:  $4.2 \cdot 10^6 \text{ Nm}^2$   
mass: 18 kg  
logarithmic decrement of damping: 0.02

The adapter is fatigue critical. The relevant cross section data for fatigue calculations acc. EN 1993-1-9 are:  
detail category: 80  
modulus:  $140 \text{ cm}^3$

## Please note:

**As a result of more stringent legal regulations and judgements regarding product liability, we are obliged to point out certain risks that may arise when products are used under extraordinary operating conditions.**

The mechanical design is based on the environmental conditions as stipulated in ETS 300 019-1-4 and thereby respects the static mechanical load imposed on an antenna by wind at maximum velocity.

Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating support structures), may result in the breakage of an antenna or even cause it to fall to the ground.

Cylindrical bodies can show crosswind response, which can cause the supporting structure to oscillate and to be damaged. Prismatic bodies, even with non-circular cross-section can show crosswind response, which can cause the supporting structure to oscillate (see EN 1991-1-4 or EN 1993-3-1).

These facts must be considered during the site planning process.

The maximum wind velocities listed should be understood in the sense of working values according to DIN and EN standards. These values include a safety factor (1.5) below the ultimate limit state (elastic limit or permanent deformation). For these wind velocities we guarantee the mechanical safety and the electrical integrity of our antennas.

**The installation team must be properly qualified and also be familiar with the relevant national safety regulations.**

**The details given in our data sheets have to be followed carefully when installing the antennas and accessories.**

**The limits for the coupling torque of RF-connectors, recommended by the connector manufacturers must be obeyed.**

**Any previous datasheet issues have now become invalid.**

Our quality assurance system and our environmental management system apply to the entire company and are certified by TÜV according to EN ISO 9001 and EN ISO 14001.

