

# Omnidirectional Antenna Vertical Polarization

450–470

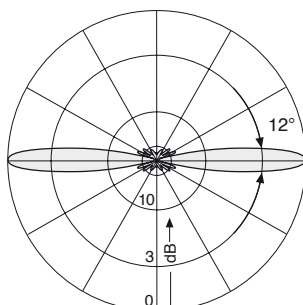
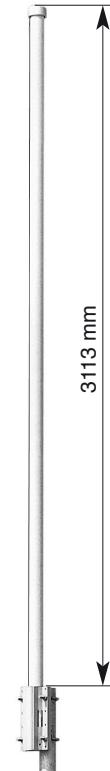
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**KATHREIN**

Antennen · Electronic

## VPol Omni 450–470 360° 8.5dBi

| Type No.            | 742 155                              |
|---------------------|--------------------------------------|
| Frequency range     | 450 – 470 MHz                        |
| Polarization        | Vertical                             |
| Gain                | 8.5 dBi                              |
| Impedance           | 50 Ω                                 |
| VSWR                | < 1.5                                |
| Intermodulation IM3 | < –150 dBc (2 x 43 dBm carrier)      |
| Max. power          | 500 W (at 50 °C ambient temperature) |



Vertical Pattern

### Mechanical specifications

|                    |                     |
|--------------------|---------------------|
| Input              | 7-16 female         |
| Connector position | Bottom              |
| Weight             | 8.0 kg              |
| Radome diameter    | 51 mm               |
| Wind load          | 220 N (at 150 km/h) |
| Max. wind velocity | 180 km/h            |
| Packing size       | 3379 x 206 x 152 mm |
| Height             | 3113 mm             |

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## Accessories General Information

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### Accessories (order separately)

| Type No. | Description           | Remarks                    | Weight approx. | Units per antenna |
|----------|-----------------------|----------------------------|----------------|-------------------|
| 738 908  | 2 clamps              | Mast: 94 – 125 mm diameter | 2.8 kg         | 1                 |
| 737 398  | Side-mounting bracket | Mast: 40 – 105 mm diameter | 6.4 kg         | 1                 |

#### Mounting:

The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

#### Material:

**Radiator:** Copper and brass. **Radome:** Fiberglass, colour: Grey.

**Base:** Weather-proof aluminum.

**Mounting kit, screws and nuts:** Stainless steel.

#### Solid, reliable construction:

Omnidirectional antennas are often installed at exposed sites on the top of masts, so special attention has been paid to their mechanical construction. The exceptionally stiff fiberglass tube with low tip deflection will withstand wind velocities of up to 180 km/h.

#### Anti-static protection:

All metal parts of the antenna as well as the supplied clamp attachment are grounded. The inner conductor is capacitively coupled.

#### Lightning protection:

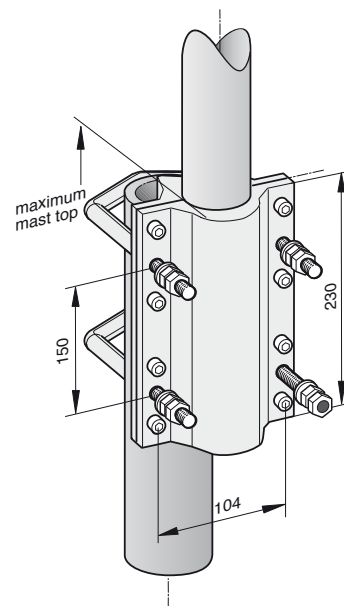
The antenna is designed to withstand a lightning current of up to 150 kA (impulse: 10/350  $\mu$ s), according to IEC 62305 parts 1–4 and VDE 0855-300, and thereby fulfils the requirements of lightning protection class II. Grounding cross-section: 22 mm<sup>2</sup> copper.

#### Environmental conditions:

Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E. The antennas exceed this standard with regard to the following items:  
– Low temperature: –55 °C  
– High temperature (dry): +60 °C

#### Environmental tests:

Kathrein antennas have passed environmental tests as recommended in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families use identical modules and materials. Extensive tests have been performed on typical samples and modules.



#### 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. These facts must be considered during the site planning process.

**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.**



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