Dual-frequency Mobile Antenna for the 160 and 450 MHz Bands

DESCRIPTION

- New whip design for optimum wind noise reduction.
- This antenna makes it possible to:
  – operate 160 and 450 MHz transceivers alternately on the same antenna
  – operate two transceivers (160 and 450 MHz) at the same time on one antenna using a diplexer (type DIPX 225/330 – must be ordered separately).
- Only a single hole has to be drilled instead of two.
- Car appearance is not destroyed by an “antenna farm”.
- Ideal for covert services.
- Stainless steel Z-mount with ball-joint and wing screw whip-fastening system.
- Simple mounting exclusively with access from the outside.
  Models with roof thickness from 2 mm to 7.5 mm mounting from the inside.
- Choice between two connection principles:
  - Z-mount: FME-connection (supplied without cable).
  - ZP4-mount: Permanently attached 4 m cable terminated with FME-connector.

SPECIFICATIONS

Electrical	
Model	DFA 2/70-Z/...
Frequency	160 MHz-band freq. to be stated within: 144...175 MHz 450 MHz-band freq. to be stated within: 380...470 MHz
Antenna Type	Dual-frequency mobile antenna
Max. Input Power	30 W
Polarisation	Vertical
Impedance	50 Ω
Gain	160 MHz: Approx. 0 dB 450 MHz: Approx. 2 dB
Bandwidth	160 MHz: ≥ 8 MHz @ VSWR ≤ 2.0 450 MHz: ≥ 15 MHz @ VSWR ≤ 2.0

Mechanical	
Materials	Whip: Conical glass fiber Chromed brass Mount: Chromed brass Weather- and shockproof plastics Stainless steel
Installation Torque	7.5 ±1 Nm
Colour	Black
Height	Approx. 530 mm / 20.87 in.
Weight	Z-version: Approx. 160 g / 0.35 lb. ZP4-version: Approx. 310 g /0.68 lb.
Mounting	21 mm / 0.83 in. dia. hole (For roof thickness 2 mm / 0.08 in. up to 7.5 mm / 0.30 in. mounting hole should be 22 mm dia.)
Mounting Plate Thickness	Max. 2.0 mm / 0.08 in. (Models up to 7.5 mm / 0.30 in. on request)

ORDERING

Type	Product No.	Description
DFA 2/70-Z/...	130000689	Z-mount with FME system
DFA 2/70-ZP4/...	130000691	ZP4-mount with 4 m cable and FME connector

ORDERING

The antenna is delivered factory-tuned to two single frequencies, one frequency in each band. These two frequencies (stated in MHz) must be specified when ordering as can be seen from the ordering examples below.
In case of duplex operation, only the Tx frequency should be stated.

THE WHIP IS COMPATIBLE WITH ALL BELOW MOUNTS

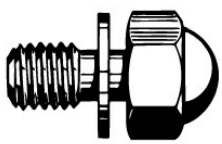
Z-Mount

ZP4-Mount

PLEASE NOTE

To obtain a more discrete appearance, the antenna can be delivered with hat nut and keyinstead of the wing screw. For this version please add a "K" to the full antenna designation.

Hat screw option:

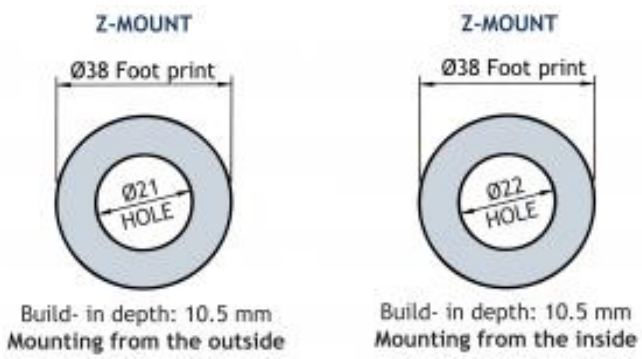


For antenna delivered with hat screw instead of wing screw add a K to the antenna designation.

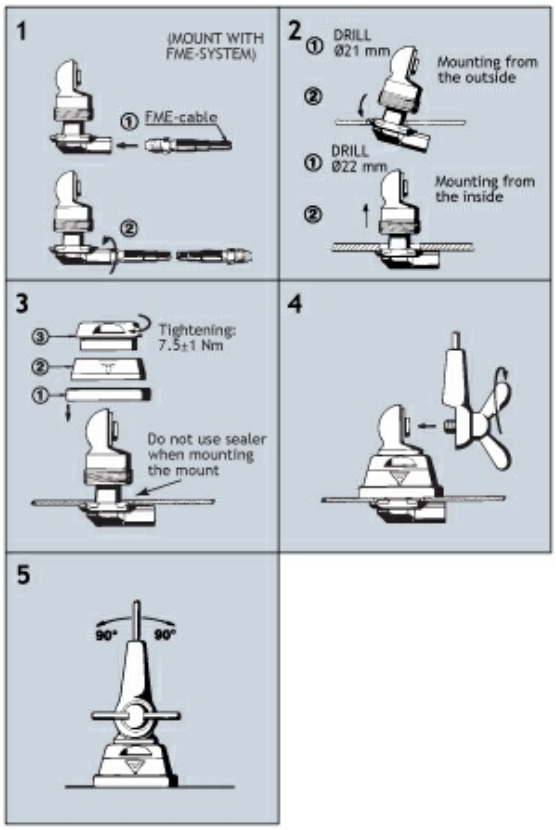
INSTALLATION

This antenna is supplied with type Z-mount. The whip is fastened to the mount by means of our standard ball-joint and wing screw system. The adjustable ball-joint ensures that the whip can always be mounted in a vertical position independent of the angle of the installation spot.
The Z-mount is particularly well suited for mounting on car-roofs because of it\'s ability to be installed exclusively with access from the outside. The Z-Mount for roof thickness from 2 mm to 7.5 mm must be mounted from the inside.
However, the antenna can be installed anywhere on the car, as the Z-mount is equally well suited for mounting on e.g. trunk or wing.

1. INSTALLATION DIMENSIONS



2. INSTALLATION STEPS



Do not use sealer on rubber gasket or other places.

3. OPERATION USING A DIPLEXER

Several advantages are gained by using only one antenna. Only one single hole has to be drilled into the car body, only one cable installation has to be run, the car appearance is not destroyed by carrying several whips and also, it may be a particular demand that it should not be too obvious to see that the car is equipped with transceiving equipment.

In case of operating two transceivers on one antenna at the same time, a diplexer, type DIPX 225/330 is necessary to complete the system. (See the coupling diagram below). The tasks of the diplexer are to protect the two receiver inputs from being destroyed by the transmitter in the contrary band, and to ensure a low-loss path between the transceiver and the antenna, which is not loaded by the other branch. For further details please see the separate data sheet on the DIPX 225/330.

The diplexer fully covers both bands and, consequently, tuning to specific frequencies is not required.

COUPLING DIAGRAM