

# **CAVITY FILTER**

**MOD. 5 KW**

**USER'S MANUAL**

**Release 1.0**

## Mod. 5KW

### GENERAL DESCRIPTION

FM double cavity filters made in quarter wave high “Q” with fixed coupling , realized in aluminium with internal line in silvered brass and copper .

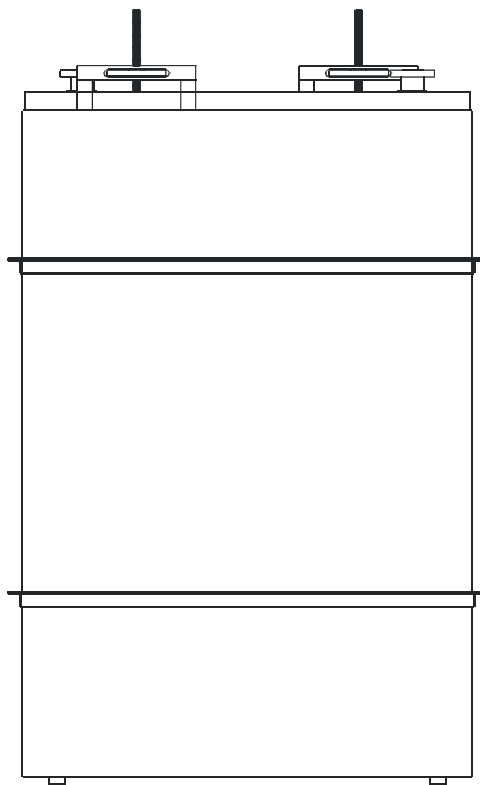
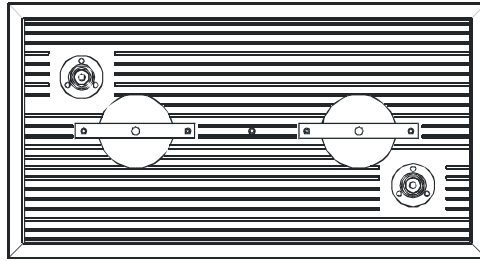
The resonant cavity filter is used to avoid intermodulation problems that can occur when several transmitters are located close one to another.

Installed between transmitter and antenna, provide an output free from spurious and isolation from other transmissions.

The equipments are usually set up in the factory on customer request.

They are otherwise set up at the centre of the frequency range.

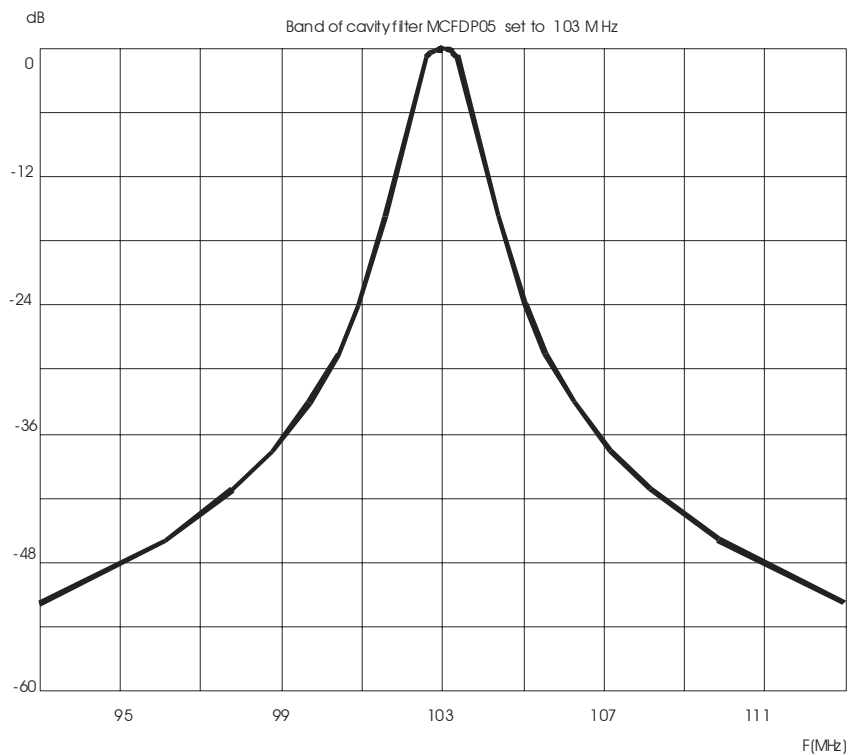
### TECNICAL FEATURES

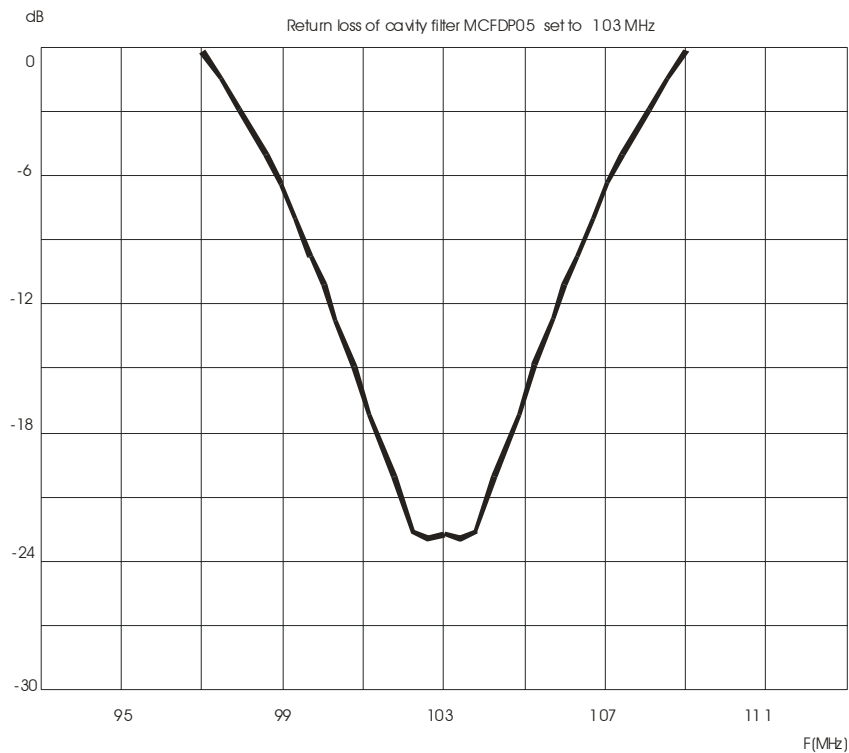


**Cavity design**

# TECNICAL SPECIFICATION

Input /output connectors	EIA 7/8"
Frequency range	87.5 ÷ 108 MHz
3 dB bandwidth	> 600 KHz
Power input	5 Kw
Impedance	50 Ω
VSWR	< 1.25
Insertion loss	< 0.25 dB
Dimension	
Width	600 mm
Height	1200 mm
Depth	300 mm





## INSTALLATION AND USE

To install the cavity filter inserting it between the transmitter and the antenna.

To use a 7/8" cable cellflex of opportune length to connect the transmitter to the cavity filter,

it is important to insert the inners in correct way.

Even if the cavity filter has been set in factory on the frequency of use, it is essential however after the transport near the station radio, reset in accurate way.

There are different ways to set the cavity filter among which two ways :

- 1) To use a tracking generator and an spectrum analyser and to effect all the necessary regulations to get the least insertion loss in the frequency of use. (Fig. 1)
- 2) To connect the filter to the transmitter, before with small power, to insert a wattmeter between the filter and the antenna. To set the filter to get the maximum power of measured output on the wattmeter and the least ROS measured on the transmitter. (Fig. 2)

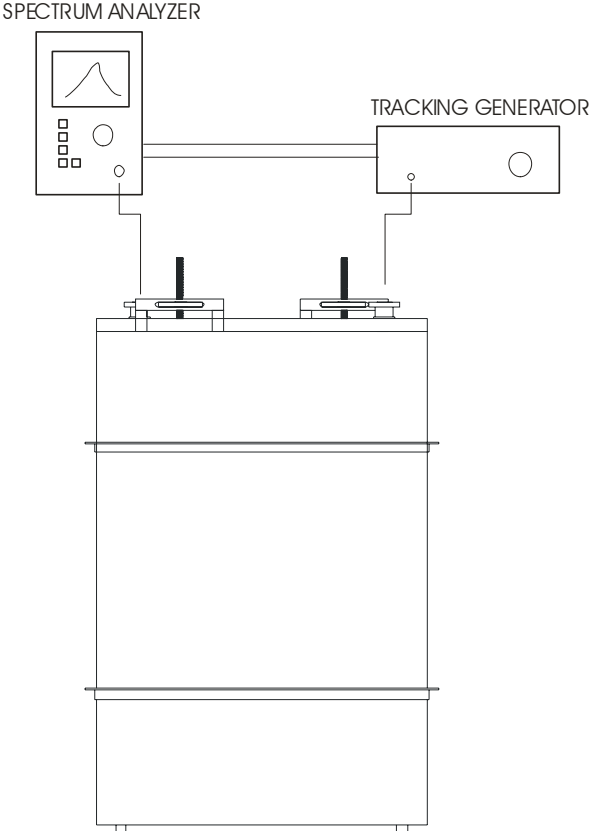


Fig. 1

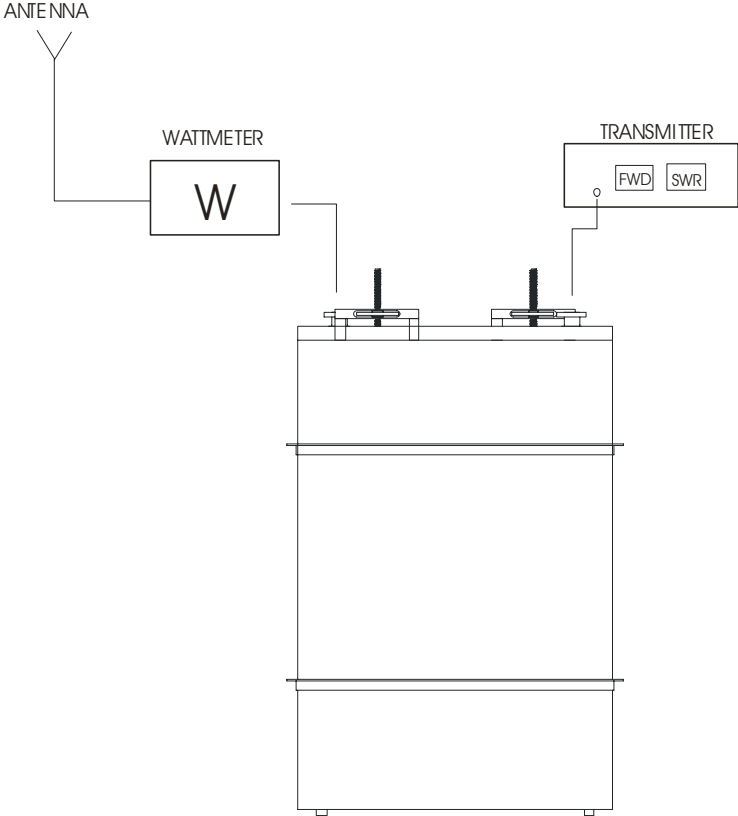


Fig. 2

In the cavity filter they are only there 4 regulations, 2 stubs and 2 turnable links . The 2 stubs are regulated for centering the frequency of the filter, the 2 links are regulated for to set the impedance to 50 ohms.

To regulate the stubs, to unscrew the nut of stop ( 1 ) and to rotate the knob ( 2 ).

For regulatee the links, to unscrew under the EIA connector ( 3 ) , to rotate ( 4 ) and to fix the screw ( 3 ).

Normally after the setting in factory it is not necessary to regulate the links but only the stubs.

