

## **TWNC-1005-1, 2**

### **NOTCH CAVITIES FOR FM BROADCAST**

The Telewave TWNC-1005-1 and TWNC-1005-2 are 5" diameter, ¼-wavelength notch cavities with an adjustable coupling loop. Notch cavities are typically used to eliminate a particular frequency, with very low loss outside the notch band. Telewave can also "tilt" the notch response to move a notch very close to a pass frequency without adversely affecting the pass response.

TWNC-1005 cavities cover 88-108 MHz, and can be tuned at 50 or 75 ohms upon request. All cavities are tuned to specified frequencies prior to shipping, and no further adjustments should be required. The positive locking mechanism allows for quick field re-tuning if frequency changes become necessary.

These cavities feature calibrated adjustable coupling, which can be easily changed to improve notch depth. This allows cavity response to be optimized for any operating environment. At densely populated sites, the TWNC-1005-2 dual cavity filter provides a deeper notch with minimum insertion loss. Multiple cavities can also provide a wider passband when required. Mounting rails are provided for all multiple-cavity filters.

Excellent frequency stability is achieved by the use of a specially machined compensator and Invar rod. The notch frequency is temperature stable from -30°C to +70°C. Telewave Ground Loop technology places the center conductor of each coupling loop at

DC ground potential for lightning protection and noise reduction.

Heavy duty materials are used throughout each cavity to insure high performance and long life. Cavity top plates are machined from ¼-inch aluminum, and are heliarc welded to the cavity body at the high current point for improved conductivity and strength. This allows Telewave cavities to handle up to 350 watts, depending on insertion loss.

Rigid foam inserts support the tuner assembly allowing vertical or horizontal mounting. Similar metals and alodined aluminum help prevent galvanic corrosion. Silver plated tuners and beryllium copper finger stock provide non-corrosive low loss contact, and ensure reliable, long-term performance.



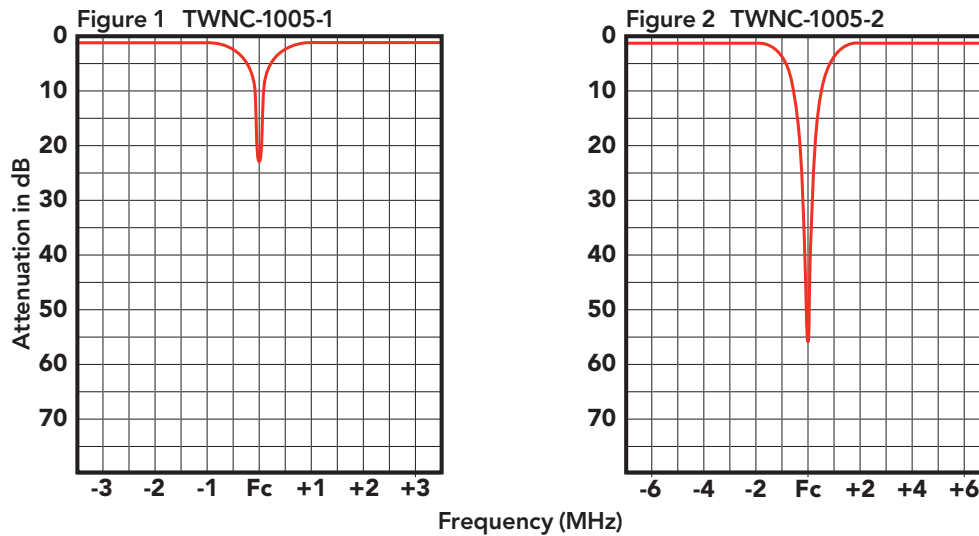
TWNC-1005-1



TWNC-1005-2

# TWNC-1005-1, 2

## TYPICAL SELECTIVITY CHARACTERISTICS



MODEL	TWNC-1005-1	TWNC-1005-2
Insertion loss (max)	0.2 dB	0.4 dB
Attenuation at notch frequency	See figure 1	See figure 2
Maximum dimensions with tuners extended in. (cm)	5 x 46 (13 x 117)	5.25 x 19 x 46 (13 x 48 x 117)
Net weight lb. (kg)	5 (2.3)	12 (5.5)
Shipping weight lb. (kg)	8 (3.6)	16 (7.3)
COMMON SPECIFICATIONS		
Tuning frequency range	88-108 MHz	
Nominal impedance	50 ohms (75 ohm opt.)	
VSWR at resonance (max)	1.5:1	
Input power (max)	350 watts	
Temperature range	-30°C to +60°C	
Cavity electrical length	1/4 wavelength	
Outer conductor, end plates	6061-T6 aluminum	
Inner conductor, coupling loops	Silver plated copper	
Tuning rod	Invar	
Contactors, fingerstock	Beryllium copper	
Cavity dimensions (Diam. x H) in. (cm)	5 x 36 (13 x 91)	
Connectors	N or UHF female (opt.)	
Finish	Gray acrylic enamel	

**NOTE:** Pass cavities are also available in 8" and 10" diameter  
 Customized response curves are available to meet exact system requirements.  
 Contact Telewave for recommendations on your specific design.