

# TWPC-2205-1,2,3

## BANDPASS CAVITY



TWPC-2205-1



TWPC-2205-2



TWPC-2205-3

The Telewave TWPC-2205-1, 2205-2, and 2205-3 are 5" diameter, ¼-wavelength, high "Q" bandpass cavity filters with superior selectivity. Bandpass cavities reject all frequencies outside a narrow pass band. These cavities reduce transmitter sideband noise, and also protect receivers against desensitization.

TWPC-2205 cavities cover 200-300 MHz. 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 retuning if frequency changes become necessary.

These cavities also feature calibrated adjustable coupling, and insertion loss can be easily set from 0.5 dB to 2 dB or more to improve selectivity. This allows

cavity response to be optimized for any operating environment. At densely populated sites, the 2205-2 and 2205-3 cavity filters provide greater selectivity 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 pass 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.

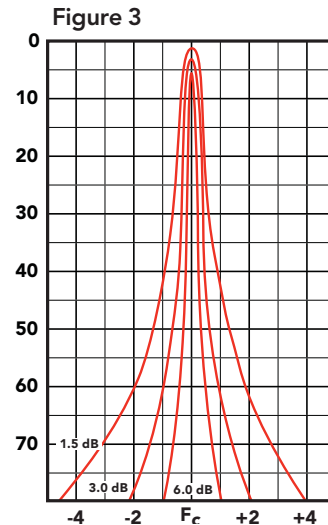
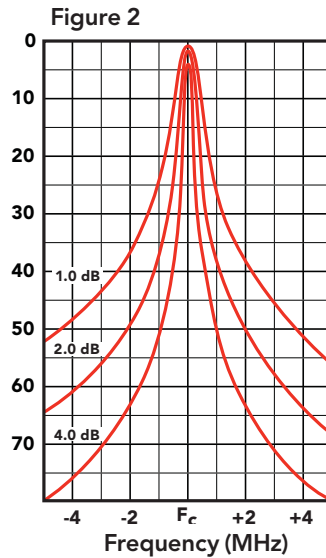
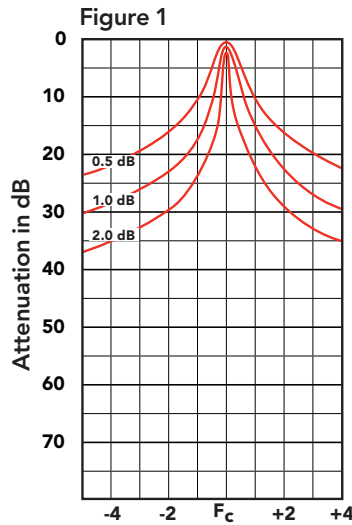
Heavy duty materials are used throughout each cavity to insure high performance and long life.

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.

# TWPC-2205-1,2,3

## TYPICAL SELECTIVITY CHARACTERISTICS



| MODEL  | TWPC-2205-1  | TWPC-2205-2                      | TWPC-2205-3                      |
|--|--|----------------------------------|----------------------------------|
| Insertion loss (adjustable)                      | 0.5 to 2.0 dB  | 1.0 to 4.0 dB                    | 1.5 to 6.0 dB                    |
| Attenuation                                      | See figure 1   | See figure 2                     | See figure 3                     |
| Maximum dimensions with tuners extended in. (cm) | 5 x 24<br>(13 x 61)                                    | 5.25 x 19 x 24<br>(13 x 48 x 61) | 5.25 x 19 x 24<br>(13 x 48 x 61) |
| Net weight lb. (kg)                              | 3 (1.5)  | 11.5 (5.3)                       | 15 (6.8)                         |
| Shipping weight lb. (kg)                         | 7 (3.2)  | 15 (6.8)                         | 19 (8.6)                         |
| <b>COMMON SPECIFICATIONS</b>                     |  |                                  |                                  |
| Tuning frequency range                           | 200-300 MHz  |                                  |                                  |
| Nominal impedance                                | 50 ohms  |                                  |                                  |
| VSWR at resonance (max)                          | 1.5:1  |                                  |                                  |
| Input power (max) vs. insertion loss             | 0.5 dB - 350 watts, 1 dB - 250 watts, 2 dB - 150 watts |                                  |                                  |
| Temperature range                                | -30°C to +70°C   |                                  |                                  |
| Cavity electrical length                         | ¼ 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 18 (13 x 46)                                       |                                  |                                  |
| Connectors                                       | N or UHF female (opt.)                                 |                                  |                                  |
| Finish   | Gray acrylic enamel                                    |                                  |                                  |

**NOTE:** When ordering be sure to specify exact frequency and model number.  
Contact the factory if additional information or assistance is required.