

TWPC-0310, 0410

BANDPASS CAVITY

The TELEWAVE TWPC-0310 and TWPC-0410 are 10" diameter, high "Q" band-pass cavity filters with superior selectivity. They are ideal for rejecting all frequencies outside a narrow pass frequency. Installed between a transmitter and antenna, these cavities reduce transmitter sideband noise and intermodulation interference, or between receiver and antenna to protect against desensitization.

TUNING RANGE

The TWPC-0310 is used in the 30 to 40 MHz band. The TWPC-0410 is used in the 40 to 50 MHz band. When frequencies are specified, all cavities are tuned prior to shipping. Only minor adjustments may be required. The positive locking mechanism allows for easy field tuning if frequency changes become necessary.

ADJUSTABLE SELECTIVITY

The TWPC-0310 & TWPC-0410 are one-quarter wave length cavities with calibrated adjustable coupling, so that insertion loss can be easily set from less than 0.5 dB to 2 dB or more with corresponding increases in selectivity. This allows for optimum settings of insertion loss and close frequency rejection. For severe RF environments, the TWPC dual and TWPC triple cavity filters further increase "Q" to provide greater selectivity.

FREQUENCY STABILITY

Frequency stability, which is critical in cavities of high "Q" design, is engineered to close tolerances by the use of a specially machined compensator and invar rod. The pass frequency is temperature stable from -30 C to +70 C. High power capability to 350 watts is another benefit of the Telewave design.

RUGGED CONSTRUCTION

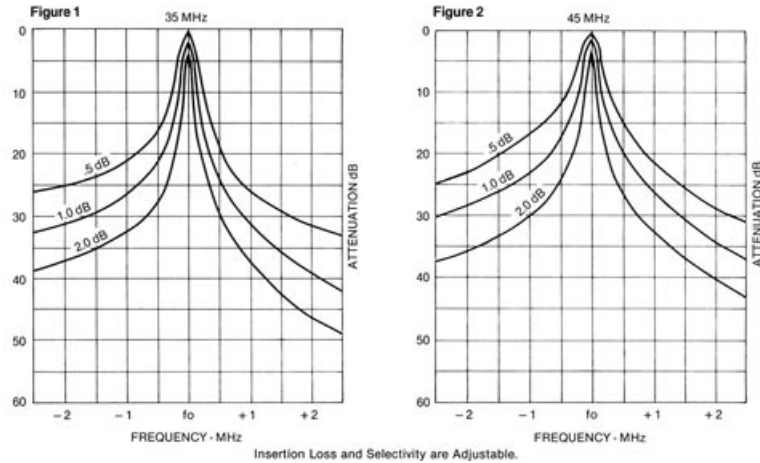
Heavy duty materials are used throughout the cavity to insure top performance and long life. The TWPC-0310 & TWPC-0410 top plates are machined from 1/4" aluminum, and are heliarc welded to the aluminum outer conductor and high current point for improved conductivity and strength. The use of similar metals and alodined aluminium helps prevent galvanic corrosion. Silver plated tuners and beryllium copper finger stock provide non-corrosive low loss contact.



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TYPICAL SELECTIVITY CHARACTERISTICS



ELECTRICAL DATA

	<u>TWPC-0310</u>	<u>TWPC-0410</u>
Model	TWPC-0310	TWPC-0410
Frequency Range	30-40 MHz	40-50 MHz
Insertion Loss	Adjustable- 0.5 to 2.0 dB	Adjustable- 0.5 to 2.0 dB
Attenuation	See Fig. 1	See Fig. 2
Maximum VSWR at Resonance	1.5:1	1.5:1
Maximum Power Input (Continuous)		
Ins. loss 0.5 dB per Cavity	350 Watts	350 Watts
Ins. loss 1.0 dB per Cavity	250 Watts	250 Watts
Ins. loss 2.0 dB per Cavity	150 Watts	150 Watts
Temperature Range	-30 C to +70 C	-30 C to +70 C

MECHANICAL DATA

Dimensions		
Individual Cavity	10" dia. x 88"	10" dia. x 72"
Maximum, Outside (Tuning rods fully extended)	10" x 97"	10" x 81"
Materials		
Outer Conductor	6061-T6 Aluminum	6061-T6 Aluminum
Inner Conductor	Silver Plated Copper	Silver Plated Copper
Tuning Rods	Nickel Plated Invar	Nickel Plated Invar
End Plates	6061-T6 Aluminum	6061-T6 Aluminum
Coupling Loops	Silver Plated Copper	Silver Plated Copper
Connector Terminations	Type N or UHF Female	Type N or UHF Female
Finish	Acrylic Enamel	Acrylic Enamel
Net Weight	29 lbs.	26 lbs.
Shipping Weight	40 lbs.	36 lbs.

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