Bandpass Cavities – 5" (127mm)

DB4001

The DB4001 series features a quarter wave high Q coaxial cavity. It reduces interference that is frequency rejectable, when installed between the antenna and the receiver. For increased rejection two and three cavity models are also offered.

- **Adjustable Selectivity** – Rotatable coupling loops can be set at 0.5, 1.0 or 2.0 dB to obtain corresponding total attenuations with minimum attenuation of the desired signal.
- **Field Tunable** – Cavities are shipped factory tuned; however, they can be retuned in the field with measuring equipment.
- **Frequency Stable** – An Invar rod, with nearly zero expansion, assures frequency stability over a wide temperature range.
- **Positive Contact** – Maintained by an indented ring with spring compression.
- **Rugged** – End plates are made of chromated aluminum, coupling loops of copper, and the center conductor and piston of silver-plated copper.
- **Non-Corrosive** – Galvanic corrosion is minimized by using similar materials or by plating or chemical conversion treatment.
- **Mounting** – Can be mounted in any position. Several cabinets are available.

Ordering Information

One Cavity	Two Cavity	Three Cavity	Freq.– MHz
DB4001-1	DB4001-2	DB4001-3	148-174

For optional N connector add N. Example: DB4001N-1

Cables and mounting rails for dual and triple models are included. Optional cabinets include DB5014 weatherproof housing and DB5015 and DB5017 weather resistant cabinets.

Mechanical Data

	DB4001-1	DB4001-2	DB4001-3
Dimensions – in. (mm)			
Individual cavity	5 (127)x21 (533.4)	5 (127)x27 (533.4)	5 (127)x21 (533.4)
Maximum, outside (with tuning rod extended)	7 (177.8)x6 (152.4) x27 (685.8)	7 (177.8)x13 (330.2) x27 (685.8)	7 (177.8)x13 (330.2) x27 (685.8)
Net weight – lbs. (kg)	5 (2.27)	13 (5.9)	20 (9.07)
Shipping weight – lbs. (kg)	8.5 (3.86)	18 (8.16)	25 (11.34)
Outer conductor	Aluminum	Aluminum	Aluminum
Inner conductor	Silver plated copper	Silver plated copper	Silver plated copper
Tuning rod	Invar	Invar	Invar
Coupling loops	Copper	Copper	Copper
Connector terminations	UHF-Female	UHF-Female	UHF-Female
Finish	Decibel Tek Black™	Decibel Tek Black™	Decibel Tek Black™

Electrical Data

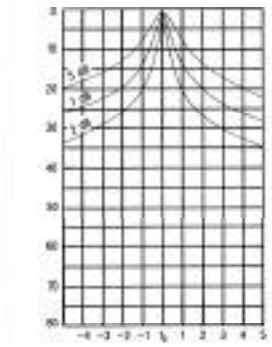
Frequency Range – MHz	See Table Above
Insertion loss (desired frequency) Adjustable – dB	
1 cavity	0.5 to 2
2 cavity	1.0 to 4
3 cavity	1.9 to 6.4
Attenuation (undesired frequency)	See curves
Impedance – ohms	50
VSWR* at resonance (maximum)	1.5 to 1
Maximum power input (continuous duty) – watts with insertion loss per cavity at:	
0.5 dB loss	275
1.0 dB loss	150
2.0 dB loss	100
Temperature range (for negligible frequency shift) – C°	-30 to +60

*VSWR maximum with 2 dB loop setting will be 2:1.

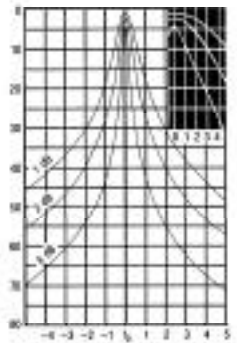
Triple Cavity – DB4001-3

Typical Selectivity Characteristics of DB4001

DB4001-1 Single Cavity Attenuation-dB vs. Frequency-MHz



DB4001-2 Two Cavity Attenuation-dB vs. Frequency-MHz



DB4001-3 Three Cavity Attenuation-dB vs. Frequency-MHz