

VF Series

Trilithic VF Series tunable bandpass filters cover a frequency range from 3 MHz to 4,000 MHz with any single model covering an octave. Standard units are available with either a three or five section response and have a 3 dB bandwidth of 5% ±1%* with low insertion loss values from 0.2 dB through 1.5 dB. VSWR is less than 1.5:1. Each unit is housed in a sturdy aluminum case with high "Q" cavities.



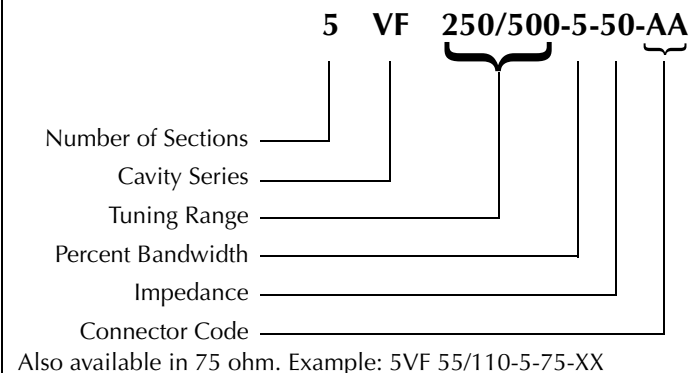
These cavities are iris coupled and shielded to minimize RF leakage. A constant filter response is maintained from the low end of the tuning cycle to the high end by varying the loaded capacitance of each section inversely as the frequency is increased.

The tuning arm is coupled directly to the driving mechanism which incorporates a precision vernier with a 6:1 ratio. An engraved dial which is calibrated directly in frequency indicates the center frequency of each filter response with resetability to within ±0.5%, thereby eliminating calibration charts or guesswork.

With the excellent filtering characteristic of the VF bandpass series, they are ideally suited wherever precision laboratory measurements are required. They are used for noise and harmonic reduction, diplexing and channel selection, and wherever a high level of attenuation is required below and above the signal band. Height is approximately 3".

*Other bandwidths available, consult the factory.

Model Numbering System



Custom Designs

All standard units are provided with type N female connectors. Other connector types can be supplied. Other options of the VF series include modified frequency ranges and bandwidth coverage from 1% ± 0.5% to 10% ± 2% and special mounting provisions. For special filtering requirements, consult factory.

Electrical Specifications

| | |
|--------------------|-----------------------------|
| Frequency Coverage | 3.0 to 4,000 MHz |
| Impedance | 50 or (75 Ohm to 1,000 MHz) |
| VSWR | Less than 1.5:1 |
| No. Sections | 3 or 5 |
| Maximum Power | 60 Watts |

| Shape Factor | | |
|--------------|------------|------------|
| | 30 dB:3 dB | 50 dB:3 dB |
| 3 Section | 3.5:1 | 8.0:1 |
| 5 Section | 2.2:1 | 3.5:1 |

Connectors

| Connector Style | Code | Connector Style | Code |
|-----------------|------|-----------------|------|
| N Female | A | TNC Male | F |
| N Male | B | SMA Female | K |
| BNC Female | C | SMA Male | L |
| BNC Male | D | F Type Female | X |
| TNC Female | E | Special | S |

5% BW Standard. 1–12% BW Available.

| 3VF Series – 3 Section Bench Mount Tunables | | | | |
|---|-------------------------|---------------|-----|-----|
| Model No. | Insertion Loss Max (dB) | Size (Inches) | | |
| | | L | W | H |
| 3VF3/6-5-50-AA | 1.8 | 13.7 | 9.4 | 4.2 |
| 3VF6/12-5-50-AA | 1.8 | 13.7 | 9.4 | 4.2 |
| 3VF12/24-5-50-AA | 1.8 | 9.6 | 7.0 | 4.0 |
| 3VF24/48-5-50-AA | 1.1 | 6.3 | 5.6 | 3.0 |
| 3VF31/62-5-50-AA | 1.0 | 6.3 | 5.6 | 3.0 |
| 3VF48/96-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF55/110-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF62/125-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF75/150-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF95/190-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF110/220-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF125/250-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF150/300-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF190/375-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF200/400-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF220/440-5-50-AA | 0.8 | 6.3 | 5.6 | 3.0 |
| 3VF250/500-5-50-AA | 0.6 | 6.3 | 5.6 | 3.0 |
| 3VF375/750-5-50-AA | 0.6 | 6.3 | 5.6 | 3.0 |
| 3VF440/880-5-50-AA | 0.6 | 6.3 | 5.6 | 3.0 |
| 3VF500/1000-5-50-AA | 0.6 | 6.3 | 5.6 | 3.0 |
| 3VF750/1500-5-50-AA | 0.6 | 6.3 | 5.6 | 3.0 |
| 3VF1000/2000-5-50-AA | 0.6 | 4.9 | 3.1 | 3.0 |
| 3VF1500/3000-5-50-AA | 0.6 | 4.9 | 3.1 | 3.0 |
| 3VF2000/4000-5-50-AA | 0.6 | 3.8 | 2.6 | 3.0 |
| 5VF Series – 5 Section Bench Mount Tunables | | | | |
| 5VF3/6-5-50-AA | 2.5 | 22 | 9.4 | 4.2 |
| 5VF6/12-5-50-AA | 2.5 | 22 | 9.4 | 4.2 |
| 5VF12/24-5-50-AA | 2.2 | 15 | 7.0 | 4.0 |
| 5VF24/48-5-50-AA | 1.6 | 9.3 | 5.6 | 3.0 |
| 5VF31/62-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF48/96-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF55/110-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF62/125-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF75/150-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF95/190-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF110/220-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF125/250-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF150/300-5-50-AA | 1.3 | 9.3 | 5.6 | 3.0 |
| 5VF190/375-5-50-AA | 1.2 | 9.3 | 5.6 | 3.0 |
| 5VF200/400-5-50-AA | 1.2 | 9.3 | 5.6 | 3.0 |
| 5VF220/440-5-50-AA | 1.2 | 9.3 | 5.6 | 3.0 |
| 5VF250/500-5-50-AA | 1.1 | 9.3 | 5.6 | 3.0 |
| 5VF375/750-5-50-AA | 1.0 | 9.3 | 5.6 | 3.0 |
| 5VF440/880-5-50-AA | 1.0 | 9.3 | 5.6 | 3.0 |
| 5VF500/1000-5-50-AA | 0.9 | 9.3 | 5.6 | 3.0 |
| 5VF750/1500-5-50-AA | 0.9 | 9.3 | 5.6 | 3.0 |
| 5VF1000/2000-5-50-AA | 0.9 | 7.1 | 3.1 | 3.0 |
| 5VF1500/3000-5-50-AA | 0.9 | 7.1 | 3.1 | 3.0 |
| 5VF2000/4000-5-50-AA | 0.9 | 5.3 | 2.6 | 3.0 |