# Fiber Fabry-Perot Tunable Filter | FFP-TF

## Description

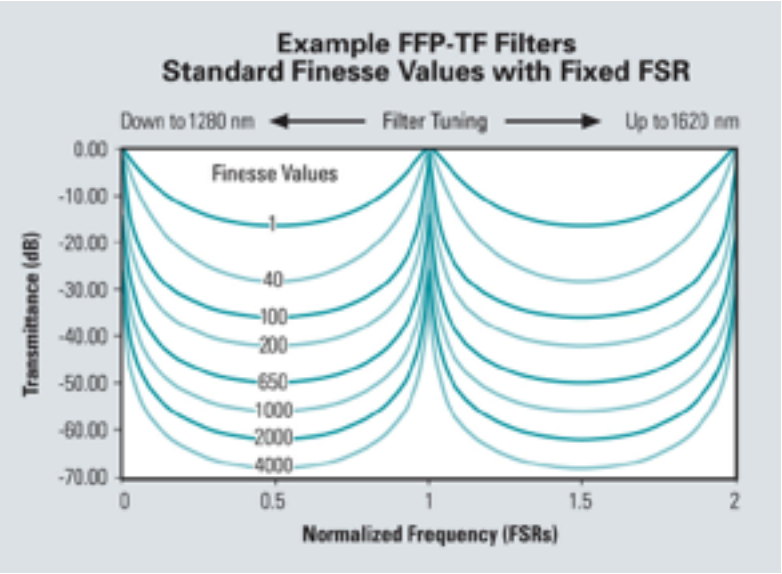
**Micron Optics' patented FFP-TF all-fiber Fabry-Perot (FFP) Tunable Filter achieves high finesse and maintains low loss in a rugged package.**

The key to the simple and elegant design of the FFP tunable filter is the lensless fiber construction. There are no collimating optics or lenses, thus with the FFP tunable filter Micron Optics has eliminated the pitfalls of other Fabry-Perot component technologies, including misalignment, environmental sensitivity, and extraneous modes.

An all-fiber Fabry-Perot **super-cavity** in a robust, fast tuning Telcordia qualified package.

The all-fiber FFP tunable filter follows the Airy function so closely that engineers can design it into the opto-electronic OEM systems knowing that it will provide results very close to the theoretical mathematical model.

For more than two decades, the Micron Optics FFP-TF has proven its capabilities in WDM applications, and has satisfied the ever-increasing performance demands of the telecom market including optical network monitoring, signal conditioning and dynamic networking and transport. Additionally, the filter continually proves itself as the key enabling technology world-class test instruments.



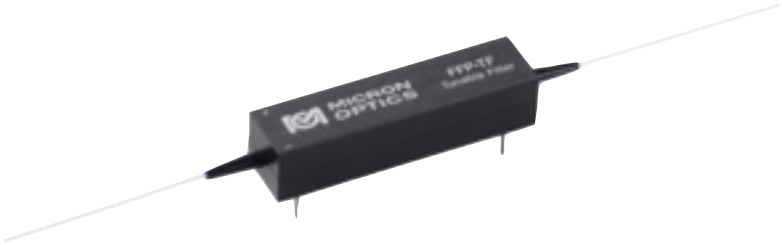

## Key Features

**All-fiber platform**

- **High resolution** and **low loss design**
- **Super-cavity finesse**
- **Vibration** and **shock resistant**
- **Thermally stable**
- **Fast scanning** permits accurate measurements

**Ideal for OEM applications**

- **Customizable** free spectral range, finesse and bandwidth
- Tunable across **S, C & L bands**
- **Small** footprint
- **Low power** requirements
- **Telcordia GR 2883** qualified
- **Proven reliability** with less than 80 FITS




## OEM Applications

- **Optical Performance Monitoring**
- **Spectrum Analysis**
- **Tunable Optical Noise Filtering**
- **Tunable Channel Drop for Ultra DWDM**
- **Tunable Sources**
- **Optical Sensing**

MICRON OPTICS

# Fiber Fabry-Perot Tunable Filter | FFP-TF

| Optical Properties[1] | FFP-TF2 | | |
|---|---|---|---|
| Operating wavelength range | O-Band 1260-1360 nm<br>C-Band 1520-1570 nm | E-Band 1360-1480 nm<br>L-Band 1570-1620 nm<br>Ext L-Band 1570-1640 nm | S-Band 1480-1520 nm<br>C&L Band 1520-1620 nm<br>Ext C&L Band 1520-1640 nm |
| Free spectral range[2] | 10 to 25,000 GHz (80 pm to 200 nm @ 1550 nm) | | |
| Finesse | 10, 40, 100, 200, 500, 650, 1000, 2000, 4000, 10,000 | | |
| Bandwidth, (FWHM or 3dB) | FSR/Finesse | | |
| Insertion loss | < 2.5 dB | | |
| Polarization dependent loss | < 0.2 dB | | |
| Input power | 100 mW (for finesse = 200) | | |
| Glitch free dynamic range | > 15 dB | | |
| **Electrical Properties** | | | |
| Tuning voltage/FSR | < 18 V | | |
| Tuning rate/FSR | 2500 Hz | | |
| Capacitance | < 3 uF | | |
| Tuning voltage, maximum | 70 V | | |
| **Mechanical Properties** | | | |
| Dimension; Weight | 12.7 mm x 14.3 mm x 57.2 mm; 28 g | | |
| Cable jacket | 900 um loose buffer tubing | | |
| Cable length | > 1 m | | |
| **Environmental Properties[4]** | | | |
| Operating temperature | -20 to 80 C | | |
| Change in voltage | < 18 V | | |
| Change in insertion loss | < 0.5 dB | | |

## Special OEM Options

Contact Micron Optics

**Wavelength Range**: 800 - 1620 nm

**Finesse**: up to 16,000

**Bandwidth**: from KHz to GHz

## Ordering Information

**FFP-TF2 wwww - bbb u ffff - ii - ccc**

| | |
|---|---|
| **wwww** | 1310 (1260-1360 nm)<br>1550 (1520-1570 nm)<br>1420 (1360-1480 nm)<br>1600 (1570-1620 nm)<br>1500 (1480-1520 nm)<br>1580 (1520-1620 nm) |
| **bbb** | Specify bandwidth<br>For example, 040 = 40 GHz |
| **u** | Bandwidth unit<br>G GHz<br>M MHz<br>K KHz |
| **ffff** | Specify finesse<br>For example, 0650 = finesse of 650 |
| **ii** | Specify insertion loss<br>For example, 2.5 = 2.5 dB loss |
| **ccc** | Unconnectorized<br>061 FC/APC (fusion spliced)<br>063 SC/APC (fusion spliced)<br>065 FC/APC (connectorized)<br>070 Side terminal configuration |

## Notes

1 Specifications are dependent on filter configuration. Please contact Micron Optics for final specifications.

2 FSRs are fixed but customizable within these ranges.

3 Captures effects of long term use over full operating temperature range of the instrument.

4 Complies to Telcordia GR 2883.

MICRON OPTICS

1852 Century Place NE
Atlanta, GA 30345 USA
www.micronoptics.com