



OZ Optics

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INLINE FABRY-PEROT TUNABLE FILTERS

Features

- High resolution and low loss design
- Super-cavity finesse
- Vibration and shock resistant
- Thermally stable
- Fast scanning permits fast, accurate measurements
- Customizable center wavelength, free spectral range, finesse, and bandwidth
- Center wavelength bands from 800 to 2000 nm
- Small footprint
- Low power requirements
- Telcordia GR 2883 qualified
- Proven reliability over decades of use

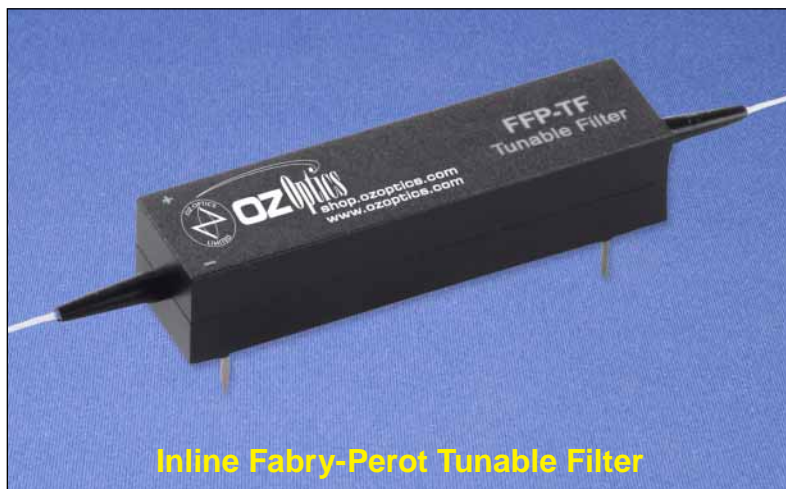
Applications

- Optical Coherence Tomography
- Optical performance monitoring
- Spectrum analysis
- Tunable optical noise filtering
- Tunable channel drop for ultra DWDM
- Tunable sources
- Optical sensing

Product description

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

The Inline Fabry-Perot tunable filter follows the Airy function so closely that engineers can design it into the optoelectronic OEM systems knowing that it will provide results that match the theoretical mathematical model.



Inline Fabry-Perot Tunable Filter



Inline Fabry-Perot Tunable Filter

Standard product specifications

Optical properties	Standard ¹ FPTF-s				
Operating wavelength range	1520–1570 nm			1460–1620 nm	
Free spectral range ²	15 THz (120 nm)			27.5 THz (220 nm)	
Finesse	500	1,000	2,000		10,000
Bandwidth, (FWHM or 3dB) ³	30 GHz (240 pm)	15 GHz (120 pm)	7.5 GHz (60 pm)	13.8 GHz (110 pm)	2.8 GHz (22 pm)
Insertion loss	< 2.5 dB	< 3 dB			< 4 dB
Polarization dependent loss	< 0.2 dB				
Input power	50 mW	30 mW	15 mW		3 mW
Electrical properties					
Tuning voltage/FSR	< 12 V ⁴				
Tuning rate/FSR ⁵	2,500 Hz ⁶				
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 ⁷				
Mounting holes	(4) #1-72 UNF x 0.16" deep				
Cable jacket	900 um loose buffer tubing				
Cable length	~ 1 m				
Environmental properties ⁸					
Operating temperature	-20 to 80°C				
Change in voltage	< 12 V				
Change in insertion loss	< 0.5 dB				

Notes: ¹ Standard specifications are fixed configurations. Please contact OZ Optics for custom specifications.

² FSRs are fixed but customizable within these ranges.

³ Bandwidth tolerances are typically +/-20%.

⁴ <18 V for FPTF-2.

⁵ Tuning rate/FSR are recommended maximums. Experimental rates of >200 KHz have been achieved on the FFP-TF.

⁶ 800 Hz for FPTF-2.

⁷ 13.5 mm x 25.8 mm x 57.2 mm for FPTF-2.

⁸ Complies to Telcordia GR 2883.

Ordering information for custom parts

OZ Optics welcomes the opportunity to provide custom designed products to meet your application needs. As with most manufacturers, customized products do take additional effort so please expect some differences in the pricing compared to our standard parts list. In particular, we will need additional time to prepare a comprehensive quotation, and lead times will be longer than normal. In most cases non-recurring engineering (NRE) charges, lot charges, and a 1 piece minimum order will be necessary. These points will be carefully explained in your quotation, so your decision will be as well informed as possible. We strongly recommend buying our standard products.

Questionnaire for custom parts

1. What wavelength range you are interested in?
2. What connector types are you using?
3. What bandwidth do you require?
4. What is the finesse you require?

Part number

FPTF-A-W1/W2-B-f-XY-1-1

A = Body type:
1: 12.7mm x 14.3mm x 57.2mm
2: 13.5mm x 25.8mm x 57.2mm

W1/W2 = Operating Wavelength Range:
Standard is 1520/1575

B = Bandwidth:
Eg: 19G = 19GHz

X/Y = Connector code:
3S=Super NTT-FC/PC
3U=Ultra NTT-FC/PC
3A=Angled NTT-FC/PC
8=AT&T-ST
SC=SC
SCA=Angled SC
LC=LC
LCA=Angled LC
MU=MU
X=No Connector

f = Finesse:
Eg: 1000