Manual Ultra-Broadband Fiber Optic Grating Tunable Filter

200nm wide tuning range, 0.7nm linewidth, 1.5dB low loss, 800 to 1800nm center wavelength, 5W

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This series of Manual Grating-Based Fiber Optic Tunable Filters offers an exceptionally wide tuning range of exceeding 150 nm, low insertion loss (~1.5 dB), and a narrow linewidth of approximately 0.7 nm. Wavelength tuning is conveniently achieved by rotating a grating with a micrometer. Utilizing proprietary optics, Agiltron ensures high stability, with options for polarization-independent or polarization-dependent operation and strong off-band suppression. The tunable passing band has a Gaussian-shaped peak and is adjustable across a wide spectral range, providing a cost-effective solution for laboratory applications.

Features

- Low insertion loss
- Wide tune range
- High off-band suppression
- Uniform bandwidth
- High tuning resolution
- Compact and cost-effective

Applications

- DWDM networks
- Fiber Sensing
- ASE control
- Tunable Fiber Lasers

Specifications

Parameter	Min	Typical	Max	Unit
Center Wavelength	800		1800	nm
Wavelength Tuning Range		170	210	nm
Tuning Resolution	-	0.02	-	nm
Insertion Loss @1550nm [1]	1.1	1.5	2.3	dB
Bandwidth @-3dB		0.7	1	nm
Bandwidth @-20dB	-	1.4	-	nm
Polarization Dependent Loss	-	0.25	-	dB
Extinction Ratio (PM fiber only)	-	20	-	dB
Off-Band Suppression	-	45	-	dB
Polarization Mode Dispersion	-	-	0.5	ps
Return Loss	40	-	-	dB
Optical Power Handling (CW)	-	-	500	mW
Operating Temperature	0	20	60	°C
Storage Temperature	-10		70	°C

Notes:

[1]. It is defined as the total light coupled out over the filter's spectral passing band. Measured using a broadband light source with integration of the transmission peak. Extra loss can occur if the laser source does not match the filter profile. A special filter can be made to match the application. The smaller the fiber core, the higher the loss. Excluding connector loss

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link]:

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Mechanical Dimension (mm)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Spectrum

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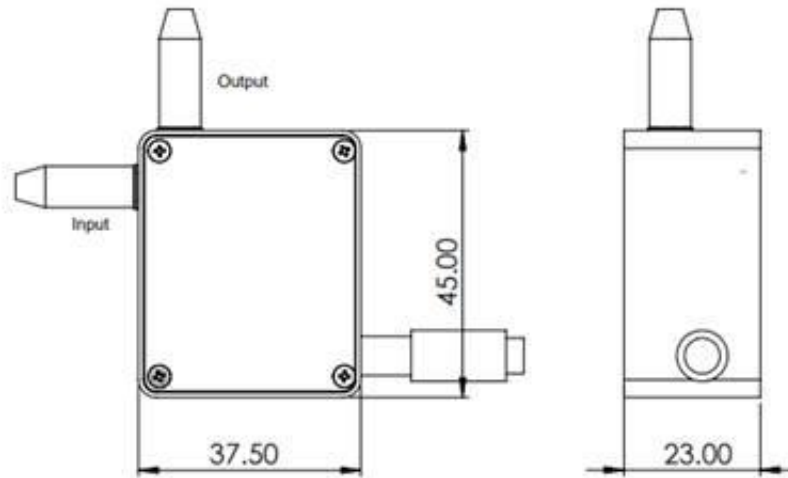
Manual Ultra-Broadband Fiber Optic Grating Tunable Filter

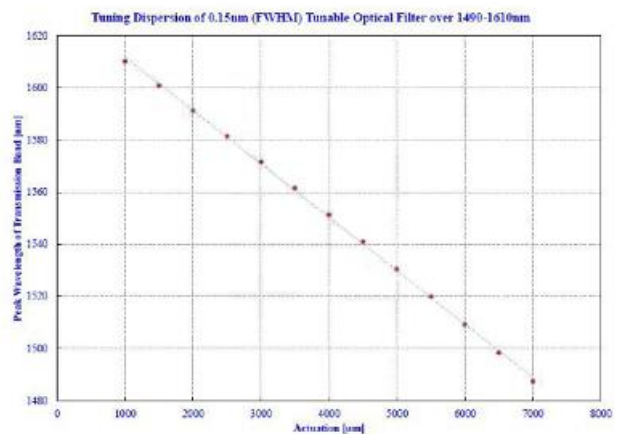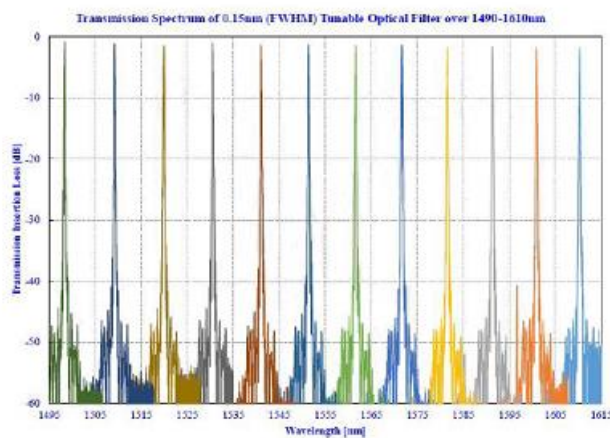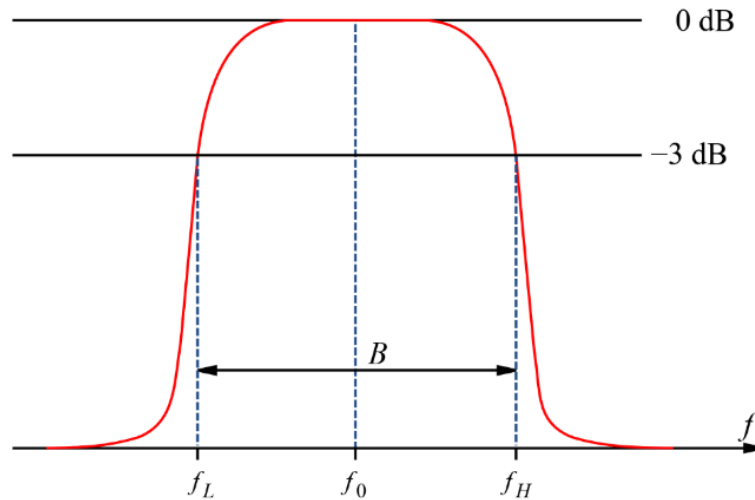**200nm wide tuning range, 0.7nm linewidth, 1.5dB low loss, 800 to 1800nm center wavelength, 5W**

Bandwidth Definition

Ordering Information

	G7	☐	☐	☐	☐	☐	☐	☐
Prefix		**Wavelength**	**Power**	**Type**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector**
FOTF-	G5*	850nm = 8 950nm = 9 1050nm = 1 1300nm = 3 1550nm = 5 1600nm = 6 1700nm = 7 2000nm = 2 1200nm = T 430nm = 4 532nm = A 630nm = B 780nm = C	Regular = 1 5W = 5 Special = 0	Standard = 1 Special = 0	SMF-28 = 1 PM1550 = 5 PM1310 = 3 SM800 = 8 PM850 = A SM980 = 9 PM980 = B Hi1060 = 6 SM400 = 4 SM450 = C PM400 = D PM460 = E SM600 = G PM630 = H 780HP = 7 PM780 = J 50/125 = K SM1950 = L PM1950 = M Special = 0	900um tube = 3 Special = 0	0.25m = 1 0.5m = 2 1.0 m = 3 Special = 0	None = 1 FC/APC = 3 FC/PC = 2 None = 3 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

* Old part number

Red is non-standard specially made at a higher cost. Red wavelength requires $1650 to buy the grating

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How to test the insertion loss of a tunable optical filter

The filter only works in a specific range. Beyond this range, extra peaks may show. These peaks can be blocked with special order. Please follow these instructions to do an optical insertion loss test:

1. Connect a broadband fiber-coupled laser source to OSA, sweep one time over the specified range of the tunable filter, and then fix the curve in Trace A as a reference.

2. Connect the broadband laser source to the fiberoptic tunable filter fiber as input, then connect the other fiber port of the tunable filter as the output to the OSA.

3. Set OSA Trace B as 'write,' Trace C as 'Calculate: B-A.' Auto sweep Trace C from the specific range. Tune the micrometer to shift the peak at a different wavelength. Use 'Peak search' to record IL at a different wavelength."