Manual Ultra-Broadband Fiber Optic Grating Tunable Filter

150nm wide tuning range, 0.7nm linewidth, 1.5dB low loss, 800 to 1800nm center wavelength

DATASHEET

BUY NOW

This series of Manual Grating-Based Fiber Optic Tunable Filters features an exceptional wide tuning range of over 150nm, low insertion loss of approximately 1.5dB, and a narrow line width of around 0.7nm. Wavelength tuning is conveniently achieved by rotating a grating using a micrometer. Based on proprietary optics, Agiltron offers high stability, both polarization-independent and polarization-dependent operation, and high off-band suppression. The wavelength passing band is tunable continuously over a wide spectral range. This device presents a highly cost-effective solution for laboratory use.

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		150	180	nm
Tuning Resolution	-	0.02	-	nm
Insertion Loss [1]	1.1	1.5	2.4	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
Dimension	88 x 32 x 24			mm

Notes:

[1]. Measured using a broadband light source with the integration of the transmission peak. If the laser source does not match the filter profile, an extra loss can occur. A special filter can be made to match the application. The smaller the fiber core, the higher the loss. Excluding connector loss. The connector adds 0.25dB each

Rev 03/24/24

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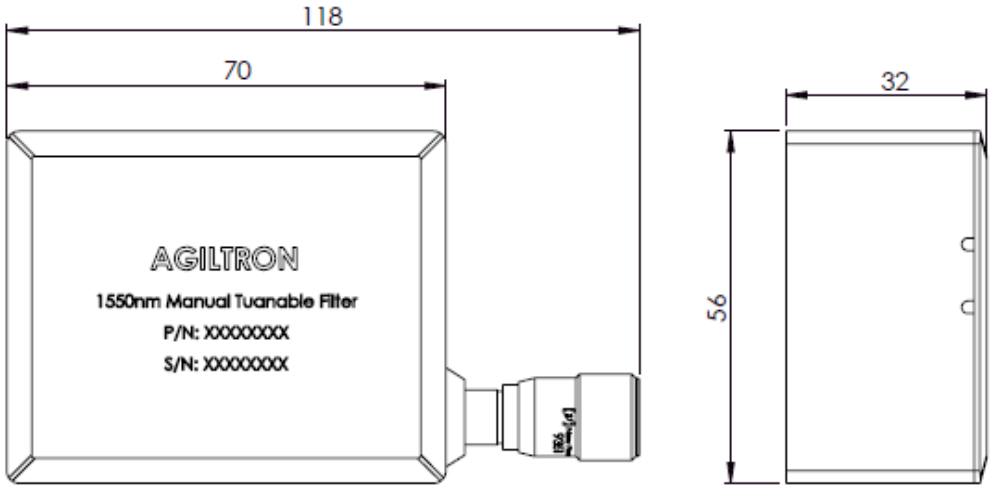
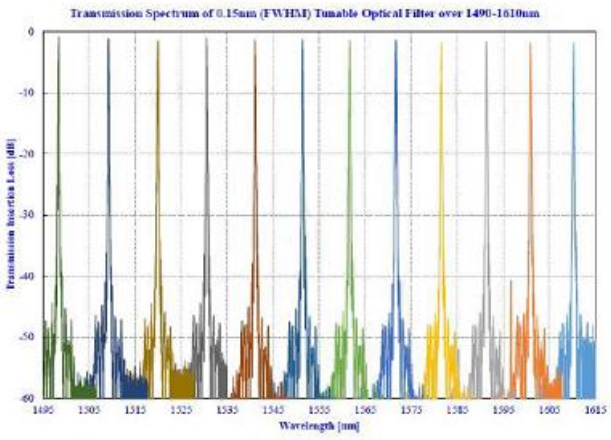
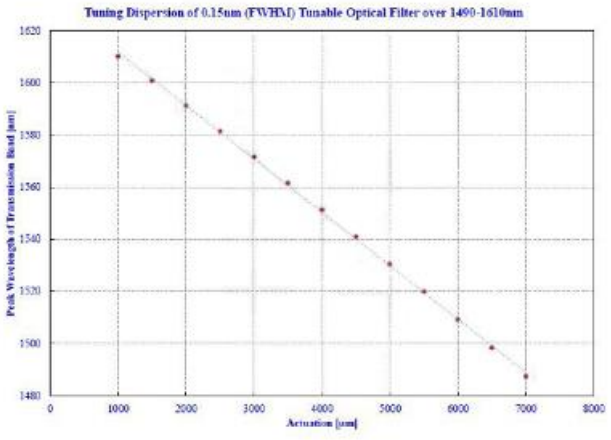
Mechanical Dimension (mm)



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

Spectrum





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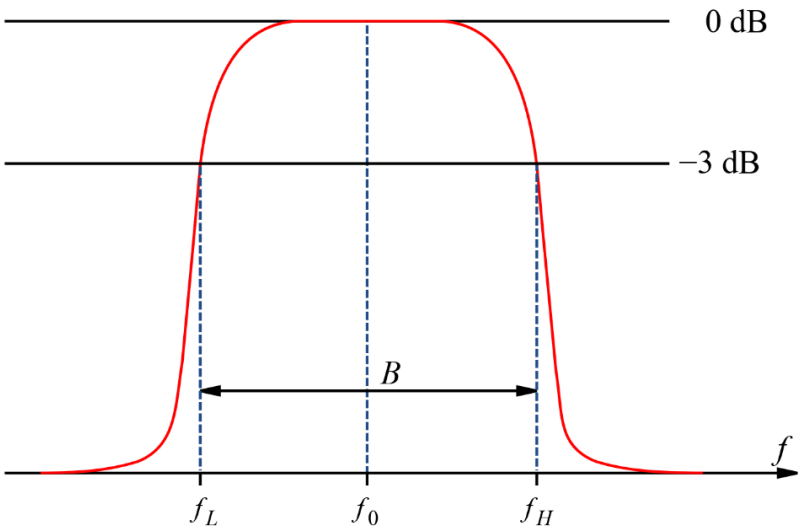
Bandwidth Definition



Ordering Information

	G5	☐	☐	☐	☐	☐	☐	☐
Prefix		**Wavelength**	**Power**	**Type**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector**
FOTF-		850nm = 8 950nm = 9 1050nm = 1 1300nm = 3 1550nm = 5 1600nm=6 1700nm=7 1200nm=2	Regular = 1 5W = 5 Special = 0	Standard= 1 Special=0	SMF-28 = 1 PM1550 = 5 SM800 =8 PM850=A SM980 =9 PM980=B Hi1060 =6 Special=0	900um tube = 3 Special = 0	0.25m = 1 0.5m = 2 1.0 m = 3 Special = 0	FC/APC=1 FC/PC = 2 None = 3 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

Red is non-standard specially made at a higher cost

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.”

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