Manual Grating-Based Fiber Optic Tunable Filter

(patent pending)

DATASHEET

BUY NOW

Agiltron's Manual Grating-Based Fiber Optic Tunable Filter provides a simple way to adjust the center wavelength of narrow band over wide band. Wavelength tuning is achieved by rotating a grating using a micrometer.

Based on a proprietary optics, Agiltron offers extremely low insertion loss, high stability, polarization independent operation, and high off-band suppression. It is tunable continuously over a wide spectral range. The device presents a most cost-effective solution for OEM applications from fiber optic networks to fiber sensing interrogation.

Features

- Extremely 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
Wavelength Tuning Range		1060±15	1500±20	2000±20	nm
Tuning Resolution		-	0.02	-	nm
Insertion Loss [1]	B-Grade	1.1	2.1	3.5	dB
	A-Grade	1.1	1.6	2	dB
Bandwidth @-3dB		0.25		0.30	nm
Bandwidth @-20dB		-	0.8	-	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	^{0}C
Storage Temperature		-10		70	^{0}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 03/23/24

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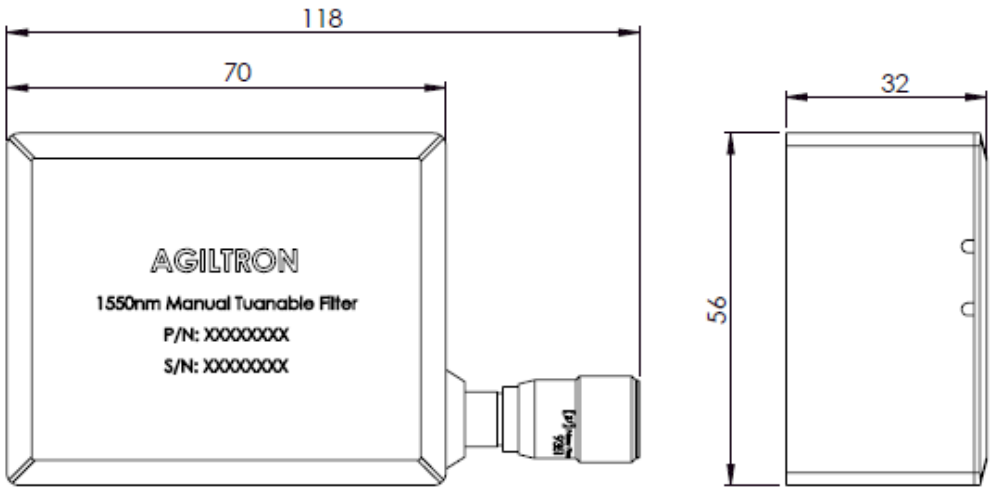
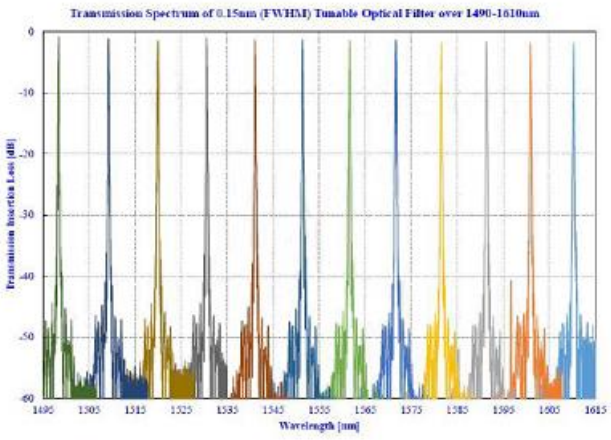
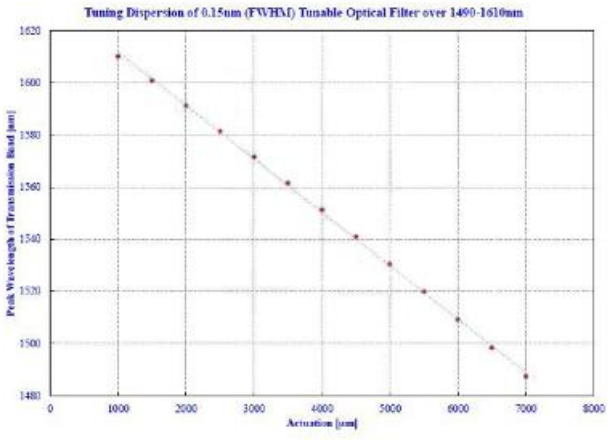
Mechanical Dimension (mm)



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

Spectrum





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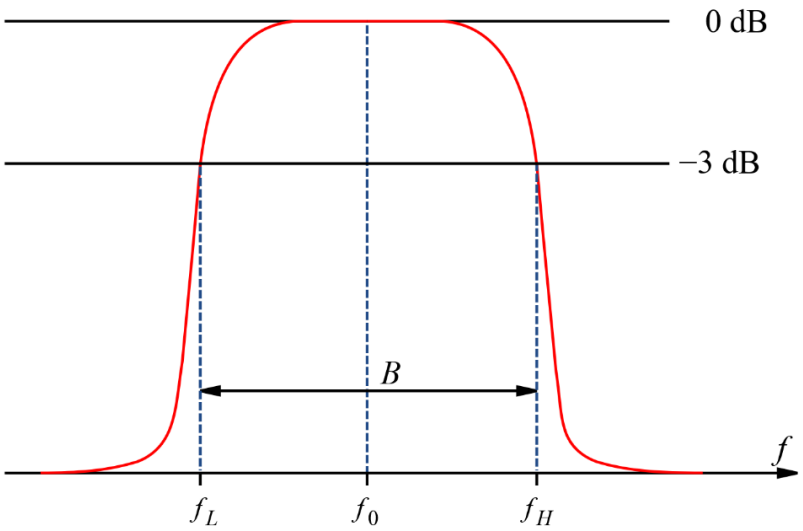
Bandwidth Definition



Ordering Information

	0 4	☐	☐	☐	☐	☐	☐	☐
Prefix		**Wavelength**	**Power**	**Type**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector**
FOTF-		1060nm = 1 1310nm = 3 1550nm = 5 1600nm = 6 2000nm = 2	Regular = 1 5W = 5 Special = 0	B-grade* = 1 A-grade** = 2	SMF-28 = 1 PM1550 = 5	900um tube = 3 Special = 0	0.25m = 1 0.5m = 2 1.0 m = 3 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 Special = 0

***** B-grade <3.5dB
****** A-grade <2.0dB

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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