Electrically Tunable Grating-Based Fiber Optic Filter

(patent pending)

AGILTRON ®

DATASHEET

BUY NOW

Agiltron's Motor Driven Grating-Based Fiber Optic Tunable Filter provides a simple way to adjust the center wavelength of narrow band over wide band. Wavelength tuning is actuated by driving a built-in precise stepper motor through interface of USB or RS232.

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 Loss
- Wide Tune Range
- High Off-Band Suppression
- Uniform bandwidth
- High Tuning Resolution
- 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
Tuning Speed					nm/s
Insertion Loss [1]	B-Grade	1.1	2.1	2.5	dB
	A-Grade	1.1	1.6	1.8	dB
Bandwidth @-3dB		-	0.25	-	nm
Bandwidth @-20dB		-	0.75	-	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 [1]		40	-	-	dB
Optical Power Handling (CW)		-	-	500 [2]	mW
Operating Temperature		0	20	60	°C
Storage Temperature		-10		70	°C
Dimensions			320 x 110 x 90		mm

Notes:

[1]. Measured using a broadband light source with integration of the transmission peak. If the laser source does not matching the filter profile, extra loss can occur. Special filter can be made to match the application. Smaller the fiber core, higher the loss. Excluding connector loss

[2]. High power version available upon request

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Mechanical Dimension (mm)

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Motor Driven Grating Based Tunable Filter
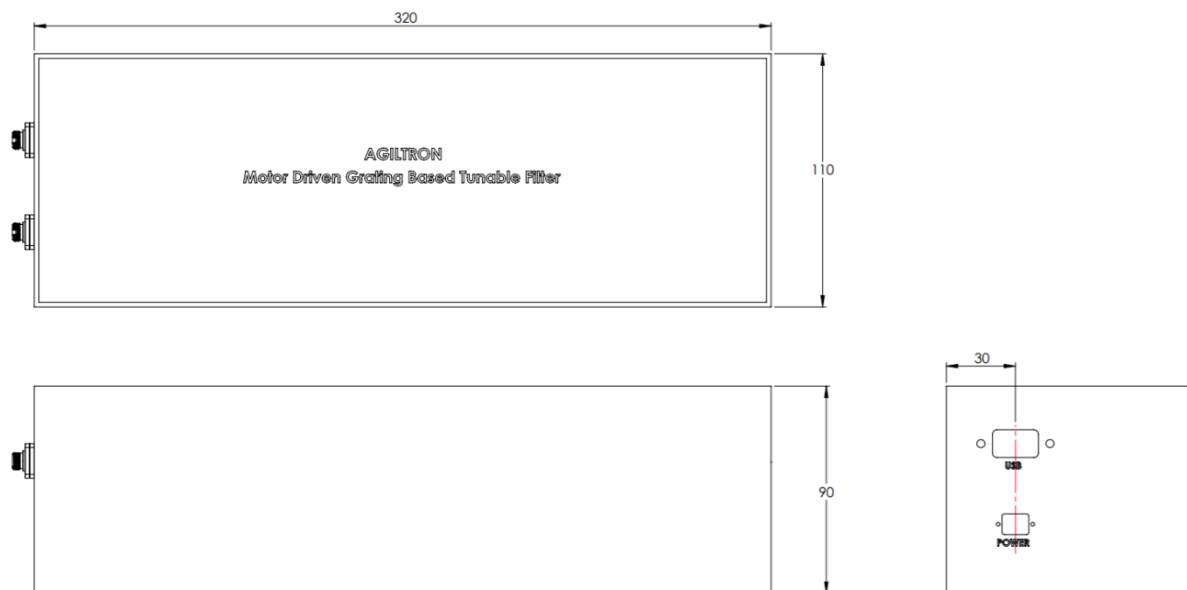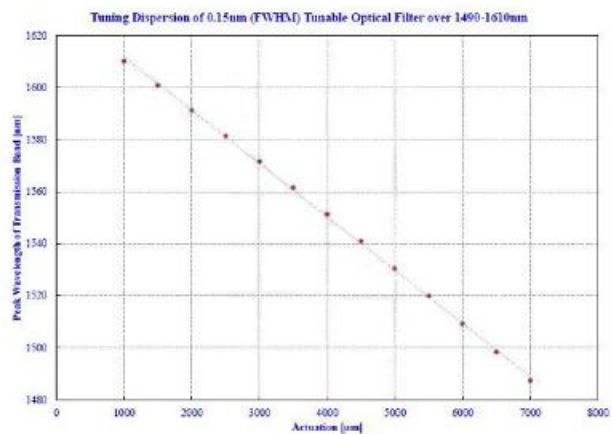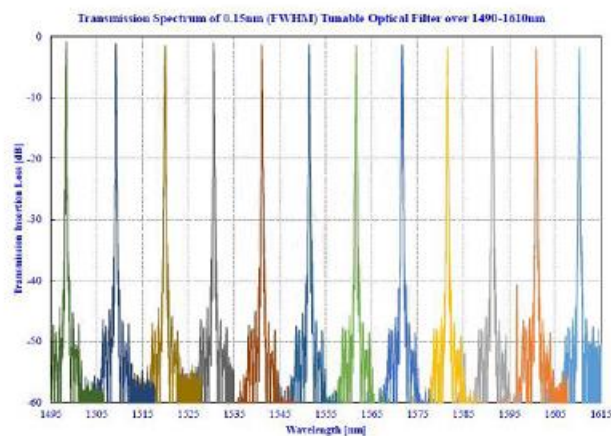
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.
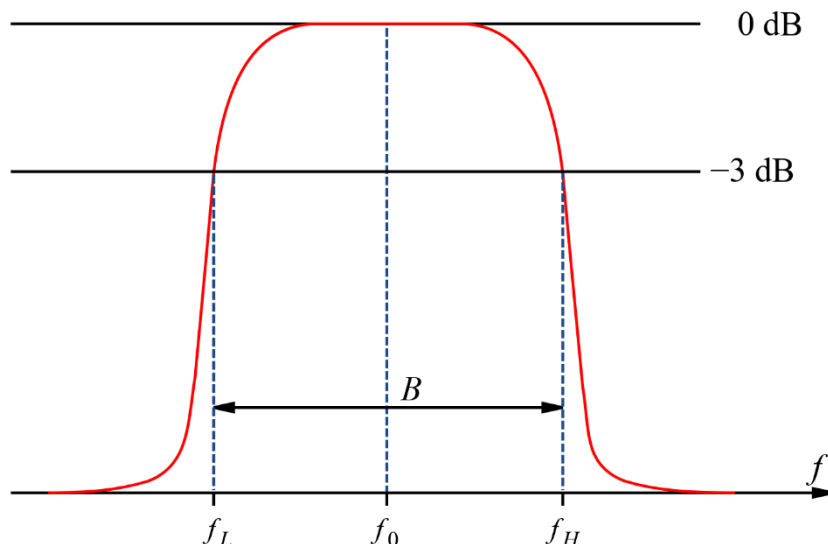
Spectrum

Transmission Spectrum of 0.15nm (FWHM) Tunable Optical Filter over 1490-1610nm

Tuning Dispersion of 0.15nm (FWHM) Tunable Optical Filter over 1490-1610nm

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Bandwidth Definition

Ordering Information

	0 7	☐	1	☐	☐	☐	☐	☐
Prefix	**Wavelength**	**Config.**	**Type**	**Fiber Type**	**Fiber Cover**	**Fiber Length**	**Connector**	
FOTF-	1060nm = 1 1310nm = 3 1550nm = 5 1600nm = 6 2000nm = 2		B-grade = 1 A-grade = 2	SMF-28 = 1 Hi1060 = 2 Panda PM1550 = 5 PM980 = E Special = 0	900um loose 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	

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."