

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

DATASHEET

[Return to the Webpage](#)



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 [\[click this link\]](#):



Legal notices: All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind Agiltron only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with the use of a product or its application.

Rev 03/31/26

[P +1 781-935-1200](tel:+17819351200)

[E sales@agiltron.com](mailto:sales@agiltron.com)

[W www.agiltron.com](http://www.agiltron.com)

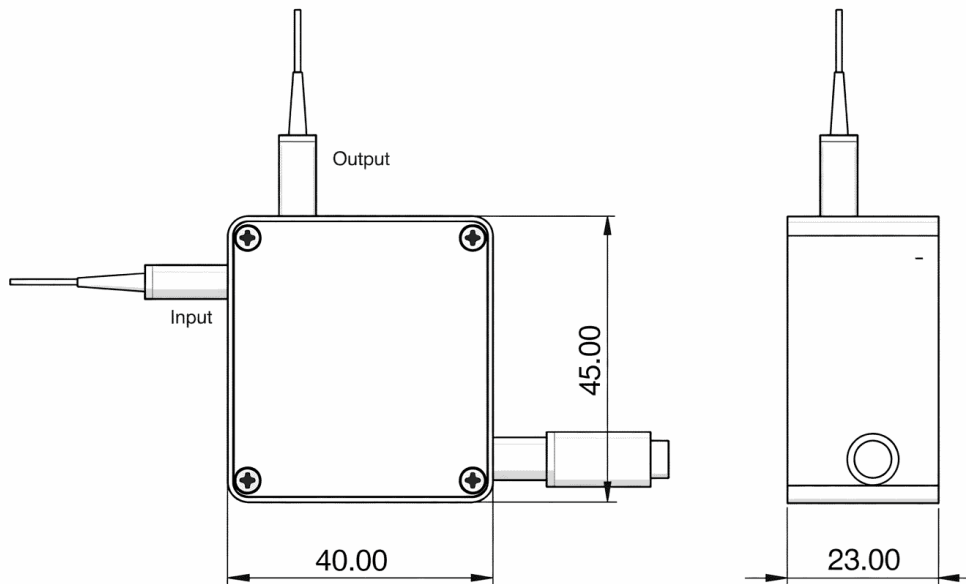
Manual Ultra-Broadband Fiber Optic Grating Tunable Filter



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

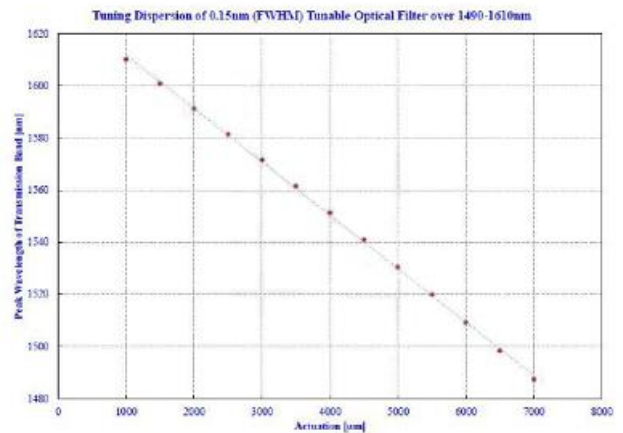
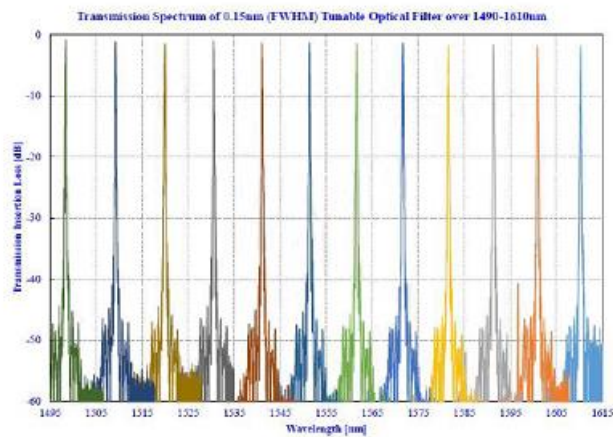
DATASHEET

Mechanical Dimension (mm)



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

Spectrum



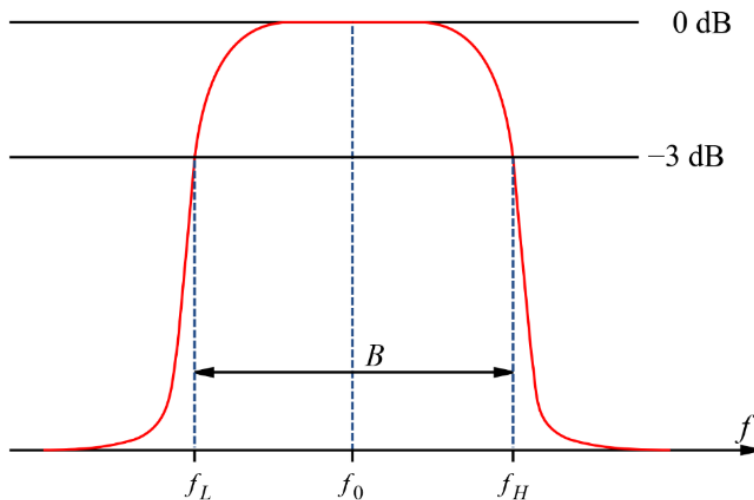
Manual Ultra-Broadband Fiber Optic Grating Tunable Filter



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

DATASHEET

Bandwidth Definition



Ordering Information (Part Number) System

Prefix	Wavelength	Power	Type	Fiber Type	Fiber Cover	Fiber Length	Connector ^[1]	
FOTF-	G5*	850nm = 8 950nm = 9 1050nm = 1 1060nm = F 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 LC/PC = 7 LC/APC = A LC/UPC = U Special = 0

* Old part number

[1]. The connector cannot be installed directly onto bare fiber, as it is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer can remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SM28 fiber and decreases further with smaller core fibers.

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

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

DATASHEET

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."