

## Lightwaves2020's Alpha Tunable Filter

*Innovative Technology Released Today...*

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Lightwaves2020 Introduces an Innovative Revolution of Fabry-Perot Etalon Tunable Filter that Achieves High Finesse of 6,000, Narrow Bandwidth of 0.02nm, and High Scanning Speed up to 5kHz



### FEATURES & ADVANTAGES

- Narrow Band Pass
- High Spectral Resolution
- Noise Reduction
- Continuously Tuning
- High Scanning Speed
- Low Insertion Loss
- Ultra Compact Size
- Low Power Consumption
- Cost Effective

### POTENTIAL APPLICATIONS

- Fiber Optical Communication System
- Bio-Medical Industry
- Test/Masurement
- IR Imaging
- Sensing Application
- Defense System
- Environmental Application
- Detection Application

Lightwaves2020's Alpha tunable filter is based on our proprietary technology. It features ultra compact size, low insertion loss (<2dB), high side-lobe suppression ratio (>20dB), low polarization dependent loss (PDL<0.2dB), high finesse (up to 6000), and excellent thermal stability. Wavelength range can be tuned up to 140 nm sequentially with excellent optical performance.

To meet customers' practical requirements, our Alpha tunable filter can be customized for different operation wavelengths, scanning range, bandwidth, and finesse. It can fine-tune the specified passing wavelength over a wide spectral range by applying an external control voltage. The typical wavelength scanning speed of Alpha tunable filter is 1kHz. Version with even higher speed is also available upon request.

With its uniqueness and advantages, our Alpha tunable filter can be easily integrated into any system that requires high degree of measurement, precision, and resolution. It is widely used in various applications from telecommunications to biomedical imaging and testing.

Alpha tunable filter is ideal for sensor applications, bio-chemical spectroscopy, high resolution optical spectrum analysis, tunable optical noise filtering, tunable laser and instrumentations, channel performance monitoring in telecommunication, and in many industrial tests and measurement applications.



Welcome to contact Lightwaves2020's Sales Department for pricing and further information. Specifications and a datasheet are available on the Lightwaves2020 website at [http://www.lightwaves2020.com/products/opticalcomponents/Tunable\\_filter\\_highspeed.asp](http://www.lightwaves2020.com/products/opticalcomponents/Tunable_filter_highspeed.asp)

**COMPANY NEWS**

*Welcome Our New Sales Managers:*

**Jenny Yuan**  
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**About Lightwaves2020**

Lightwaves2020, Inc. is a leading designer and manufacturer of innovative fiber optics components and subsystems. It manufactures tunable filters, liquid crystal based VOA, polarization controllers, VOA arrays, polarimeters for 40G/100G applications, and high speed product family such as high speed VOA, high speed polarization controllers, MSA, compact and ultra compact EDFAs, and ASE source with GFF option. We also offer optical thin film coating services.

For more information, please visit our website at [www.lightwaves2020.com](http://www.lightwaves2020.com) or contact us by phone, email, or fax:  
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**Alpha Tunable Filter**

Parameters	Unit	Specification
Operating Wavelength Range	nm	C-, L-, or C+L-band
Scanning Wavelength Range	nm	35, 80, or customer specifies
Standard Finesse	-	100, 200, 500, 1000, 2000, 4000, or customer specifies
Bandwidth @ -3dB	nm	0.4, 0.2, 0.1, 0.05, 0.02 or customer specifies
Insertion Loss	dB	3 (Typical)
Side-lobe Suppression Ratio	dB	≥20
PDL	dB	<0.2
PMD	ps	<0.1
Scanning Speed	kHz	1-5, 1 (Typical)
Control Voltage, $V_{FSR}$ , for one Free Spectrum Range tuning (without driver)	Volt	0-160 VDC
Control Voltage, $V_{FSR}$ , for one Free Spectrum Range tuning (with driver)	Volt	0-5 VDC

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