



Fiber Pigtailed Fabry-Perot Etalon WLFE-version

Fiber Pigtailed Fabry-Perot Etalons of WLFE-series are based on free space Fabry-Perot Etalon. They provide periodical wavelength-comb transmission. Basic layouts include 2-port transmission type, 3-port transmission/reflection type and 4-port transmission type. The 2-port device offers transmission spectrum through the Etalon, 3-port device offers both transmission and its supplementary reflection spectrum through the Etalon and 4-port device produce a phase delay between 2 output transmissions when inputting identical signals at 2 input ports. All of these devices are built based on WL Photonics' platform of "Crystal-Bench", allowing them to maintain excellent channel center wavelength stability.

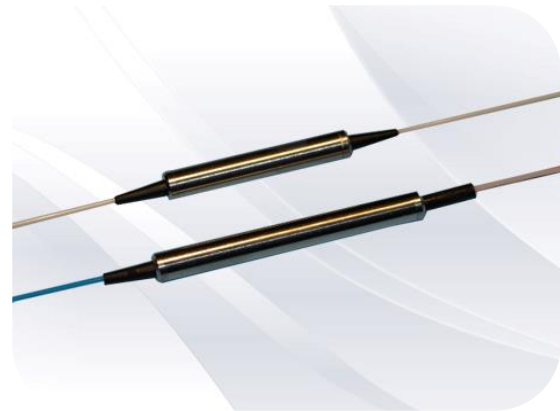
WL Photonics' fiber-pigtailed Fabry-perot Etalons are available over wide range from 1000-1650nm with both of single-mode fiber and polarization-maintaining fiber. Etalon's Free Space Range (FSR) and Finesse (F) can be customized for specific requirements. Such the etalons can be cost-effective wavelength references for diverse applications such as optical telecommunication, FBG sensing interrogation system and tunable fiber lasers.

Key Features

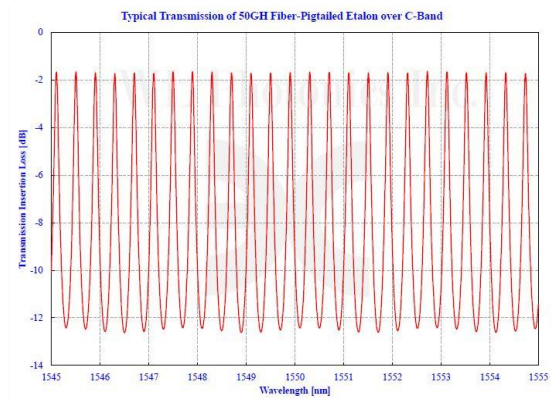
- Available over X-, O-, S-, C- & L-bands
- Compact passive package
- Low insertion loss
- SM or PM fiber pigtail
- High optical power handling

Applications

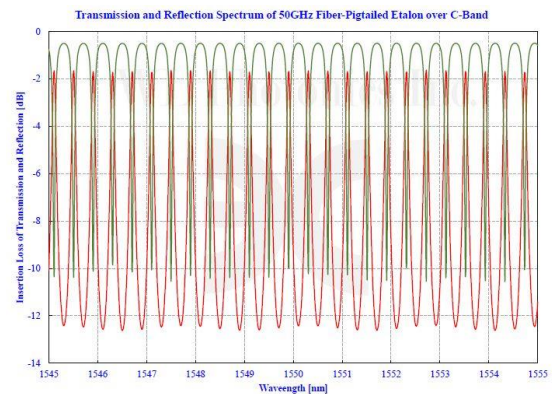
- Wavelength locker
- WDM multiplexing telecom networks
- Hand-held optical spectrum analyzer
- FBG sensing interrogation systems
- Tunable filter lasers
- Tunable optical filters



Standard Fiber Pigtailed Etalon



Spectral Shape of 2-Port Pigtailed Etalon



Spectral Shape of 3-port Pigtailed Etalon



Typical Specifications of Fiber Pigtailed Etalon (WLFE-version)

Parameter	X-Band	O-Band	S/C/L-Band
Center Wavelength	1060nm, 1310nm, 1550nm or specified others.		
Operating Spectral Range	40nm		
Typical FSR	25, 50, 100GHz or specified others		
Typical FSR Tolerance	±0.005GHz for 100GHz FSR		
Finesse	2.5~14		
Insertion Loss (residual)	<0.8dB		
Polarization-Dependent Loss (PDL)	<0.15dB		
Extinction Ratio (ER)	>20dB (connector exclusive and for PM fiber pigtail only)		
Return Loss	>45dB		
Phase Delay	0 to $\lambda/4$ (for 4-port device only)		
Max. Input Optical Power	500mW (CW)		
Fiber Type	HI1060	SMF-28 (or 28e)	
	PM980	PM1300	PM1550
Operating Temperature	10 to 50°C		
Storage Temperature	-20 to 85°C		
Dimension	Specification-dependent		

Ordering Information

Part Number: WLFE-**A**-**B**-**C**-**D**-**E/F**-**G**-**H**-**I**

- A. Port number: **2** is for 2-port transmission type, **3** is for 3-port transmission and reflection device, and **4** is for 4-port device with phase delay between 2 output signals.
- B. Center wavelength in nanometer: **1060** is for 1060nm (X-band) and **1550** is for 1550nm (C-band).
- C. Free Space Range (FSR) of Etalon in GHz: **25** is for 25GHz and **100** is for 100GHz.
- D. Finesse of Etalon: ranges from 2.5 to 14 or specified others.
- E. Fiber type: **SM** is for single mode fiber and **PM** for polarization-maintaining fiber.
- F. Pigtail length in meter: **0.5** is for 0.5m long and **1.0** is for 1M long.
- G. Cable diameter in millimeter: **3.0** is for 3mm OD cable and **0.9** is for 900µm OD loose tube.
- H. Connector type of either pigtail termination or receptacle adapter, such as **FC/APC**, **FC/UPC**, **SC/APC** or **LU/UPC** and **00** is for no connector.
- I. Delay phase: **4** is for $\lambda/4$ phase delay between 2 output signals (for 4-port device only)

Example: WLFE-**2**-**1550**-**50**-**7.5**-**SM**-**3.0**/**1.0**-**FC/APC**

Description: Fiber pigtailed Etalon of 50GHz FSR and 7.5 Finesse for 1550nm with 1 M long 3.0mm OD loose cabled SMF-28 single mode fiber pigtail terminated with FC/APC connectors on pigtail ends. 500mW max. optical input power.