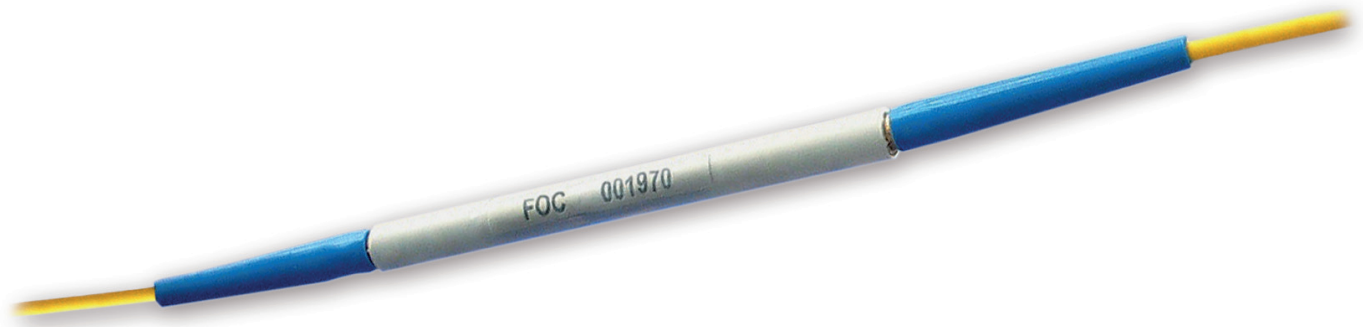




For a complete overview of components visit our website at [www.foc-fo.com](http://www.foc-fo.com).

## Components ▶ Filter ▶ **In-Line Attenuator**



In-line attenuators are used for reducing the optical power in fiber-optic networks. On the one hand, this is necessary for many test setups, on the other hand some transmission systems require an adjustment of the fiber-optic attenuation to the system's dynamic. In-line attenuators are passive components which can be operated in both directions.

In many applications in-line attenuators present an optimum, cost-efficient alternative to the combined use of intermediate attenuation connectors and normal patchcords, and simultaneously reduce the number of required coupling locations.

The in-line attenuators are manufactured using an optimized Fused Biconical Taper (FBT) technology ensuring optimum performance parameters and high long-term stability.

### Types

#### ■ Single-Window In-Line Attenuators

are optimized for a defined wavelength, e. g. 1310 nm or a wavelength range within an optical window.

#### ■ Dual-Window In-Line Attenuators

are optimized for predefined wavelength ranges in the second and third optical windows and guarantee a uniform attenuation there.

#### ■ Triple-Window In-Line Attenuators

guarantee a uniform attenuation across several optical windows, e. g. for  $1310 \pm 50\text{nm}$  and  $1550 \pm 100\text{nm}$ .

Alternatively in-line attenuators are available for any wavelengths and wavelength ranges.

### Applications

- telecom and data networks
- measuring units and systems and testing facilities
- transmit, receive and monitoring facilities of optical transmission systems

### Models

- different models available with primary-coated fibers, with pigtailed in fiber and cable designs
- available without connectors or terminated with optical connectors

For check lists and additional ordering information for our products visit our website or see separate data sheets.



**Optical parameter**

		Single-Window Attenuator (ASW)	Dual-Window Attenuator (ADW)	Triple-Window Attenuator (ATW)
Wavelength (nm)		1310 ± 40 or 1550 ± 40	1310/1550 ± 40	1310 ± 50 and 1550 ± 100
Attenuation <sup>(1)</sup>	1 dB, 2 dB, 3 dB	± 0,30 dB	± 0,50 dB	± 0,70 dB
	4 dB, 5 dB	± 0,50 dB	± 0,70 dB	± 0,90 dB
	6 dB, 7 dB, 8 dB, 9 dB	± 0,70 dB	± 0,90 dB	± 1,10 dB
	10 dB	± 0,90 dB	± 1,10 dB	± 1,30 dB
	15 dB, 20 dB, 25 dB	± 1,00 dB	± 1,30 dB	± 1,50 dB
Temperature Dependent Loss <sup>(2)</sup>		± 0,1dB		
Polarisation Dependent Loss		on request, depending on attenuation value		
Return Loss <sup>(3)</sup>		> 55 dB		

<sup>(1)</sup> incl. wavelength, temperature and polarization dependence, without connectors

<sup>(2)</sup> from -40 °C to +85 °C for Size 01, otherwise from -5 °C to +70 °C

<sup>(3)</sup> without connectors, measured at the window's central wavelength(s)

