# Acousto-optic tunable filter

## Overview

Acousto-optic tunable filter (AOTF) is a kind of solid state, electronically addressed and random access optical passband filter. It can be used to quickly and dynamically select specific wavelengths from wideband or multiline sources. Diffraction occurs when specific matching conditions are met between acoustic beams and laser beams. Thus, it becomes possible to electronically control filter parameters such as wavelength, modulation depth, and even bandwidth to provide fast (typically μs), dynamic, random access optical filtering.

## Product Introduction

According to the existing material characteristics, Goptica designed AOTF products based on TeO2 shear wave acoustic mode. The wavelength range covers 350-2500 nm. Optimum performance is achieved in each wavelength range and meets most applications: resolution as low as 1 nm, FOV Angle up to 20 degrees, and aperture up to 10 mm.

In most cases, the filtering output of AOTF is collinear. After the randomly deflected input light passes through AOTF, two horizontally polarized or vertically polarized light with different deflection directions will be obtained, which can be easily used by users and fiber coupling can be carried out according to needs.

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## Application

Quantum electronics, spectroscopy, spectral polarization, fluorescence spectroscopy, HYPERspectralimaging, laser wavelength tuning, wavelength selection, optical communication.

## Product specifications

| Product Code | Working wavelength (nm) | Active Aperture (mm) | Resolution | Diffraction Eficiency | Optical Material |
|---|---|---|---|---|---|
| TF1001-TS020-640_1100 | 640-1100 | 2 | ≤10 nm | >70% | Tellurium dioxide |
| TF1002-TS030-650_1000 | 650-1000 | 3 | ≤5 nm | >70% | Tellurium dioxide |
| TF1003-TS030-650_1000 | 650-1000 | 3 | ≤10 nm | >70% | Tellurium dioxide |
| TF2001-TS025-400_1000 | 400-1000 | 2.5 | ≤10 nm | >40% | Tellurium dioxide |

*Please don't hesitate contact with us for other specifications, we can also customize for your needs.*

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