OptiGRATE
HIGH EFFICIENCY FOR HIGH POWER

BragGrate™- Bandpass Filter

Reflecting Bragg Grating (RBG) for spectral filtering

Product Description

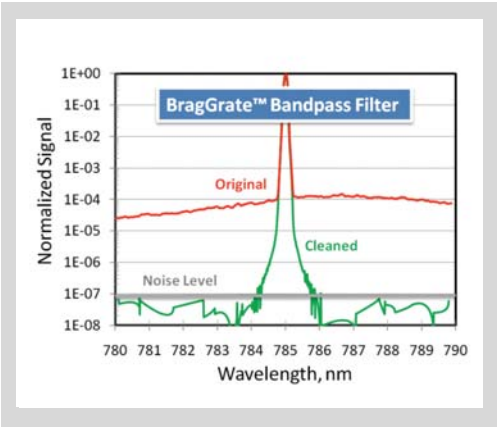
BragGrate™ Bandpass Filter is a reflecting Bragg grating (RBG) recorded in a bulk of photosensitive silicate glass. The filters are used to clean up laser spectral noise with a bandwidth as narrow as 100 pm in visible and near IR regions. In Raman spectroscopy applications, combining the Bandpass Filters with matching BragGrate™ Notch Filters enables Raman shift measurements down to 5 cm^{-1} from the laser line. BragGrate™ filters have superior environmental stability and can handle high power optical radiation.

Advantages & Features

- High spectral selectivity
- Superior environmental stability, no degradation over lifetime
- High power operations over 1 kW
- High average power operations >20 W
- High energy operations up to 5 J/cm^2
- No polarization dependence
- Near-diffraction-limited beam quality

Standard Parameters

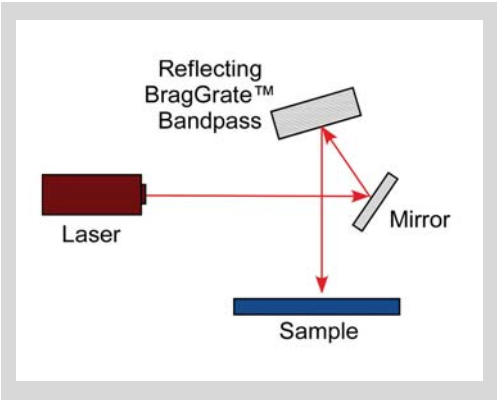
Center Wavelength: 405, 488, 514, 532, 633, 785, 1064 nm
Spectral Bandwidth (FWHM): < 7 cm^{-1}
Diffraction Efficiency: > 90%
Lateral Dimensions: 5×5 mm^2
Total Deflection Angle: 20 deg



785 nm laser diode ASE background clean up with a BragGrate™ bandpass filter with bandwidth <7 cm^{-1}

Applications

- Spectral filtering and noise cleaning of laser beams
- ASE filters for Raman laser sources
- Spectral detection
- Tunable filters for high resolution spectroscopy



Schematics of a possible BragGrate™ Bandpass filter configuration

Specifications

Diffraction Efficiency (DE): >90%
Spectral Bandwidth: 0.1 to 0.5 nm
Operating Range λ: 400-2500 nm
Grating Thickness: 1.5-10 mm
Apertures: up to 10×10 mm^2
Deflection Angles: 5-90 deg

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OptiGrate Corp designs and manufactures a full range of BragGrate™ holographic optical elements (volume Bragg gratings) in inorganic photosensitive silicate glass. OptiGrate pioneered commercial VBG technology and supplied VBG-based diffractive optical components to hundreds of customers on 5 continents. This technology is protected by a portfolio of issued and pending patents.