BrageGrate™- Mirror
Reflecting Bragg Grating (RBG) for laser mode selection

Product Description
BrageGrate™ Mirror is a reflecting volume Bragg grating recorded in a bulk of photosensitive silicate glass. BrageGrate™ Mirrors placed in laser resonators enable spectral and thermal management of the laser radiation and can withstand high optical energy up to 5 J/cm².
The laser modal structure is controlled by the longitudinal mode selection with the bandwidth down to 20 pm and the customized central wavelengths with accuracy 0.1-0.5 nm. BrageGrate™ Mirrors have record low absorption and allow thermal laser wavelength shift reduction to 5 pm/K @ 532 nm.

Specifications
- Diffraction Efficiency (DE): 3-99.7%
- Spectral Bandwidth: 20 pm to 0.5 nm
- Wavelength Range: 350-2700 nm
- Grating Thickness: 0.50-20 mm
- Apertures: up to 35x35 mm²
- Angular Selectivity: 1-100 mrad
- Incident/Output Angles: 0-45 deg
- Grating to Surface Tilt Angle: 0-10 deg
- Absorption/Scattering Losses: <2%

Standard Parameters
- Center Wavelength: 405, 6XX, 7XX, 8XX, 9XX, 10XX, 15XX, 19XX nm
- Spectral Bandwidth (FWHM): 0.1-0.3 nm
- Diffraction Efficiency: 10-35, 90, 99 %
- Lateral Dimensions: 1.5×x2, 1.5×12, 5×x5, 8×x8 mm²
- Thickness: 1, 2.5, 4.0 mm

Advantages & Features
- High power operations, over 1 kW
- High energy operations up to 5 J/cm²
- Low to No power penalty
- Unrestricted lifetime, no degradation of parameters has been detected for over 10 years
- Narrowing of laser line down to 20 pm with superior thermal stability
- Environmental stability
- No polarization dependence
- Unique solutions to achieve SFM oscillations
- Near-diffraction-limited beam quality

Normalized spectra of 2W free running LD and with BrageGrate™ Mirror at different T. The narrowed linewidth was < 45 pm.
Insert: mode profile with a 10% DE BrageGrate™ Mirror