

# VPH GRATINGS

More technologies. More efficiency. More solutions.

The founders of Wasatch Photonics began writing volume phase gratings in dichromated gelatin over 40 years ago, and no one does it better. We draw on our multiple patented design technologies to optimize each grating to its application, from stock gratings for R&D to custom gratings for our many OEMs. Our strengths include high efficiency, low polarization sensitivity, and uniform performance over broad bandwidths & large clear apertures – all in a robust, field-tested package. As an experienced volume gratings supplier, we offer quality, performance, and consistency you can count on.



## WP ADVANTAGES

- Exceptional 1<sup>st</sup> order diffraction efficiency
- Multiple patented designs for 350-2500 nm
- High uniformity over the full spectral band
- Low wavefront distortion, minimal scatter
- Ability to optimize for bandwidth, transmission, polarization insensitivity & AR coating
- Validated 1<sup>st</sup> order diffraction efficiency
- Robust design for easy cleaning & handling

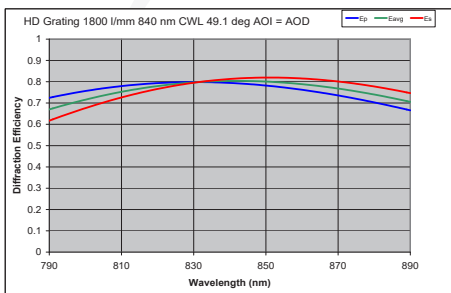
## APPLICATIONS

- Laser pulse compression
- Optical coherence tomography (OCT)
- Astronomical instrumentation
- Raman & broadband spectroscopy
- Hyperspectral imaging, remote sensing & imaging spectrographs
- Scanning LIDAR systems
- Telecommunications & DWDM



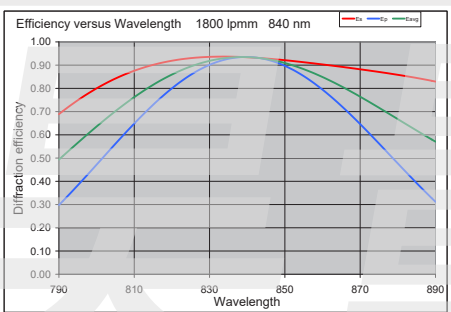
## More design technologies = a perfect fit

Volume phase holographic (VPH) gratings offer up to 40% greater efficiency than surface relief gratings, and enable more compact, transmissive designs. Our proprietary process encapsulates the grating structure between two AR coated surfaces for easy cleaning & handling. We utilize three distinct design technologies to optimize our gratings to your needs, backed by 15 years of manufacturing experience.



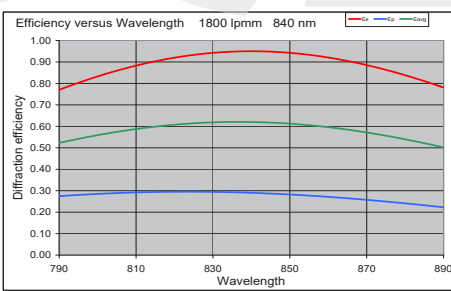
### HIGH DISPERSION & EFFICIENCY HD GRATINGS

- ▶ Exclusive, patented design available only from Wasatch Photonics
- ▶ Consistently high transmission over bandwidths up to 200 nm
- ▶ Low polarization sensitivity, smoothly varying efficiency
- ▶ Enables faster, smaller OCT spectrometers with greater clarity
- ▶ Increased full bandwidth throughput for spectroscopy & astronomy
- ▶ Customizable for AOI's >36° and wavelengths 350-2500 nm



### HIGH TRANSMISSION DICKSON GRATINGS

- ▶ We are the original patent holders and experts on this design!
- ▶ Extremely high transmission over bandwidths of 20-60 nm
- ▶ Efficiency is high for both s- & p-polarization, and varies smoothly
- ▶ Ideal for astronomy: supports angle tuning & large dimensions
- ▶ Enables high dispersion spectroscopy with low polarization sensitivity
- ▶ Customizable for AOI's >36° and wavelengths 350-2500 nm



### STANDARD & SINGLE POLARIZATION GRATINGS

- ▶ Capable of exceptionally high transmission at a single polarization
- ▶ Can also be designed as broad bandwidth & polarization insensitive
- ▶ Can be manufactured in dimensions up to 300 mm or larger
- ▶ Good for astronomy, hyperspectral imaging, and laser filtering
- ▶ Ideal for laser pulse compression: minimal beam distortion & scatter
- ▶ Customizable for many AOI's and wavelengths 350-2500 nm

## OEM & CUSTOM GRATING DESIGN

At Wasatch Photonics, we apply our deep understanding of optical design to support our R&D and OEM customers in creating smaller, more sensitive, cost-effective instruments for a diverse range of applications. With over 15 years of manufacturing experience and extensive in-house processing & metrology capabilities, we have the resources to provide you with high quality, premier performance gratings customized and AR-coated to your specific needs. Contact us today to get started!

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