

FILTERS FOR OEM INSTRUMENTS



Bringing information to light

www.omegafilters.com

Toll Free: (866) 488-1064

P: (802) 254-2690 F: (802) 254-3937
oemsales@omegafilters.com

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partnerships

Since 1969 Omega® Optical has specialized in designing and manufacturing high performance interference filters that meet the demanding spectral requirements of world class optical instrument manufacturers. We are guided by the pursuit of technological excellence and strive to define the state-of-the-art, whether expanding the limits of Raman detection or creating super narrow-band filters in the UV.

From 30 years of partnership experience with the world's leading OEMs we have developed a comprehensive understanding of the needs of instrument developers and manufacturers, and one of the largest ranges of capabilities and product lines in the thin film industry. Our filters are being used in the next generation of life science and industrial optical instruments—from high-throughput screeners, gel plate readers and flow cytometers to environmental sensors and end point detectors.

If you're looking for a partner who understands your instrument development and production needs, we're on your wavelength.

filter types & technology

Every filter is a highly complex solution to a specific application. Filters from our extensive line of stock products are often appropriate in OEM applications. However, optimum system performance is obtained from collaborative engineering and a customized solution.

ALPHA Technology ■ Extremely sharp transitions from stopband to passband. ■ Precise, repeatable location of cut-on and cut-off wavelengths. ■ Greatly improved ripple at cut-on. ■ Near unity transmission across the passband. ■ Deep attenuation over the stopband. ■ Wide free spectral ranges in both stopband and passband. ■ Thin component assemblies for optical quality transmitted wavefront. ■ Optimization of performance over large field of view.

Bandpass Filters ■ Narrow-bands from sub-nanometer to several nanometers. ■ Wide-bands with widths up to hundreds of nanometers. ■ Edge slopes and out-of-band blocking from industry standard performance to our proprietary ALPHA technology performance.

Edge Filters ■ Both longpass and shortpass. ■ Edge steepness tailored to specific applications. ■ Variable reflection and transmission ranges matched to your requirements. ■ ALPHA technology offers the steepest edges and the widest reflection and transmission widths in the industry.

Dichroic Mirrors ■ From the UV to the near IR. ■ Long and short-pass filters at incident angles up to 45°.

Beamsplitters ■ Available across the spectrum with any desired transmission/reflection ratio.

Full Mirrors ■ Metal mirrors for broad spectral ranges. ■ Dielectric mirrors for the highest reflection over limited ranges.

Neutral Density Filters ■ Both metal film and absorptive.

Rejection Band Filters ■ Rejection bands as narrow as 30nm.

Color Correction Filters ■ Tailored to specific spectral balancing specifications. ■ Photopic corrector with match to human photopic response.

Anti-Reflective Coatings ■ Designed for either broad band performance or wavelength specific reflection reduction.

Filter Manufacturing Processes ■ Ion assisted deposition (IAD). ■ Electron beam vapor deposition (E-Beam). ■ Photon transfer vapor deposition (resistive).

filter applications

Fluorescence Filters ■ Extensive selection of dye-specific emission, excitation, and dichroic filters. ■ Stock microscopy or assemble-to-order for any application.

Raman Filters ■ UV longpass and shortpass edge filters down to 220nm. ■ ALPHA designs equal or superior to holographic filters.

Laser Line Filters ■ Common laser lines from 266nm 4th Nd YAG to 1550nm InGaAsP.

Analytical Filters ■ Atomic emission for arc and spark conditions.

Color Imaging Filters ■ Color Enhancement—eliminates crossover region between R, G, and B. ■ Color Separation—high purity additive (R,G,B) and subtractive (C,Y,M).

Illumination/Detection Filters ■ Passbands from the UV to the visible red. ■ Blue, green, red, or IR rejection.

Absorption Filters ■ Classical bandpass designs.

capabilities

Short Lead Times ■ Rapid response from proof-of-concept to bread-boarding to prototyping through production.

Filter Quantities to Suit Your Needs ■ From proof-of-concept to full-scale production requirements.

Protected & Exposed Coatings ■ We manufacture both protected and exposed coatings. ■ Protected coatings offer high precision, environmental stability, longer lifetime, and potential lower costs.

Substrates for Any Requirement ■ Primarily flat substrates from a wide variety of scientific and optical glasses.

Spectral Performance from UV to IR ■ From 190nm in the UV up to 2500nm in the near IR.

Physical Specifications for Any Application ■ Dimensions up to 200mm round or square.

Component Inventory ■ Over 500,000 components ranging from UV to IR. ■ Assemble-to-order for small quantity requirements.

Pricing Strategies to Fit Your Budget & Plan ■ Competitive pricing. ■ Flexible scheduling of blanket orders. ■ Inventory partnering.