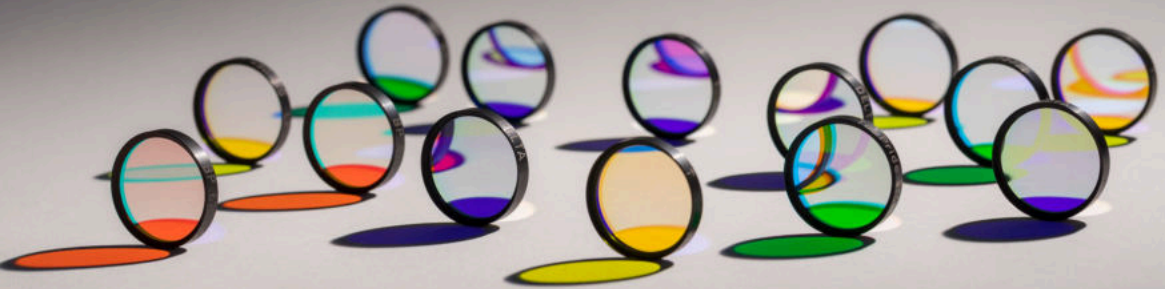





delta
optical thin film

We are the optical filter company





Our products: Homogeneous Filters

- Bandpass filters
- Multi-Bandpass filters
- Blocking filters
- Notch filters
- Edge filters
- Beamsplitters and combiners



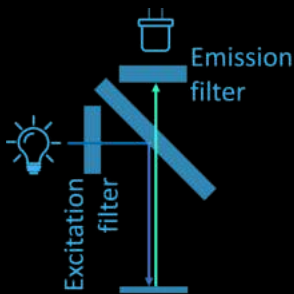
Our products: Linear Variable Filters

- Linear Variable Bandpass filters
- Linear Variable Edge filters
- Linear Variable beamsplitters
- Linear Variable Filter Sets
- Linear Variable Order Sorting Filters



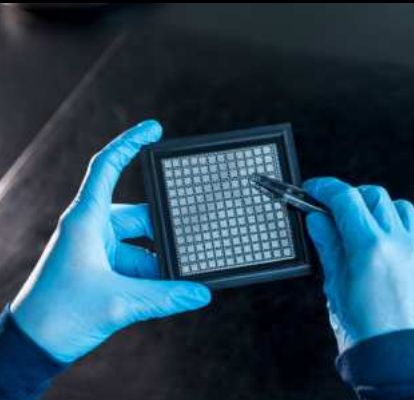
Filters for Fluorescence Microscopy

Fluorescence filters are crucial components in fluorescence microscopes, and selecting the right filters is key to optimizing performance and obtaining accurate results. Delta Optical Thin Film manufactures cutting-edge filters, including bandpass, edge, multi-bandpass, and tunable filters, tailored to meet diverse needs for excitation filtering, dichroic beam separation, and emission filtering.



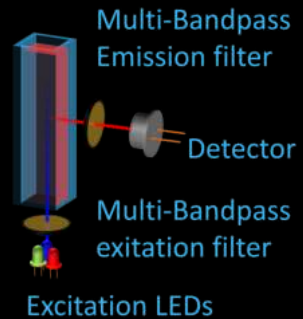
For advanced setups, our tunable filters allow users to adjust wavelengths dynamically, enabling compatibility with a wide range of fluorophores. Delta Optical Thin Film combines decades of expertise with innovative technologies to deliver reliable, high-performance solutions for fluorescence-based instruments.

Filters for Point of Care



Point-of-Care instruments utilizing fluorescence detection demand compact, high-performance optical filters that are both cost-effective and scalable for mass production. At Delta Optical Thin Film, we specialize in manufacturing filters that meet these demands, including excitation filters, emission filters, and dichroic beam splitters. Our advanced multi-bandpass filters are particularly suited for instrument designers that want to develop versatile instruments .

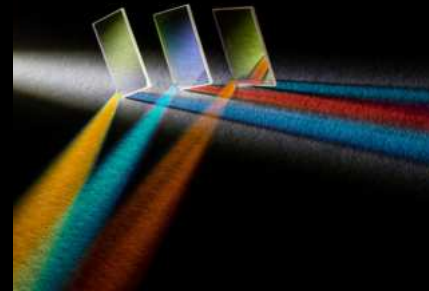
Using state-of-the-art magnetron sputtering technology, we produce durable hard-coated filters with exceptional optical performance, ensuring precise light management for Point-of-Care fluorometers while supporting efficient, high-volume production. Let us power your next innovation!





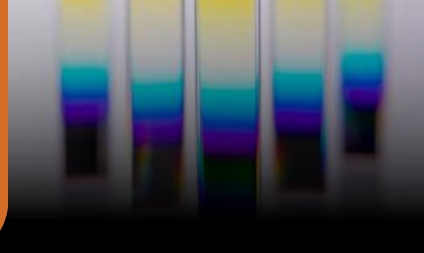
Filters for Microplate Readers

Delta Optical Thin Film provides high-performance optical filters designed specifically for microplate readers, ensuring reliable and accurate fluorescence detection. Our product range includes excitation filters, emission filters, and dichroic beamsplitters, all optimized for high throughput and robust performance. For advanced applications, our multi-bandpass filters enable simultaneous detection of multiple fluorophores, enhancing assay efficiency.



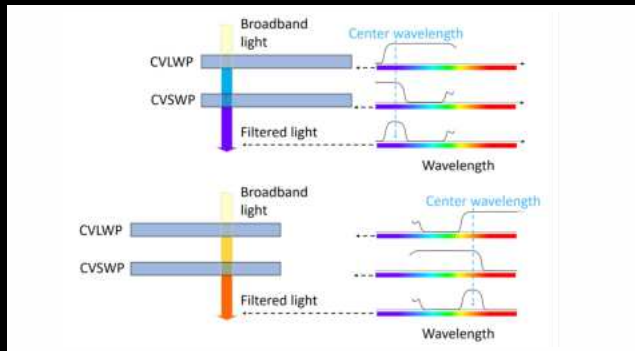
Using cutting-edge magnetron sputtering technology, we manufacture durable hard-coated filters with precise spectral properties and superior durability. With expertise in designing filters for microplate readers, Delta Optical Thin Film offers scalable solutions tailored to your needs, ensuring optimal performance for demanding laboratory and diagnostic applications.

Variable Filter Monochromator



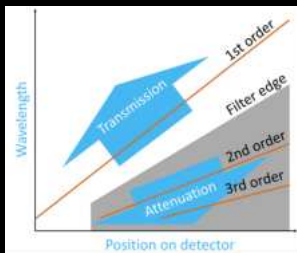
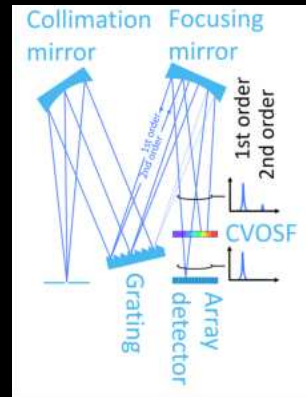
By combining a Linear Variable Long-Wave Pass (LVLWP) filter with a Linear Variable Short-Wave Pass (LVSWP) filter, a tunable bandpass filter can be created. As the filters move linearly, the spectrum is scanned and the bandpass can be adjusted. This setup is typically simpler and more robust than rotating diffraction grating monochromators. With over a decade of experience in designing and manufacturing Linear Variable Filters (LVFs), we offer competitive solutions to meet various challenges.

Our refined processes ensure high-quality, cost-effective products tailored to your specific needs.



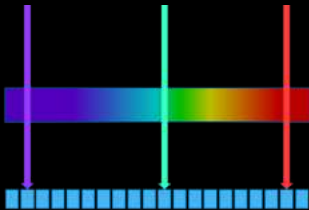
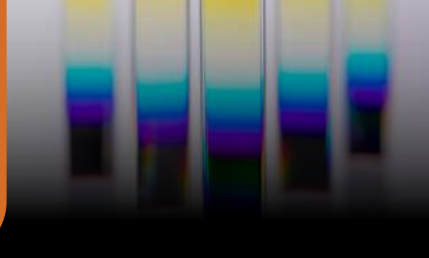
Order Sorting Filters for Spectrometers

Especially for wideband spectrometers, the multiple orders from the grating can overlap on the detector and complicate spectrum interpretation. Order sorting filters can solve this problem by blocking the higher orders. Delta Optical Thin Film's Linear Variable Order Sorting Filters (LVOSF) are ideally suited for blocking higher orders in grating based spectrometers due to their continuously varying filter edge along the filter. This reduces both stray-light and edge effects from filter region transitions.



Our LVOSFs are coated on UV grade fused silica substrates and can be manufactured either with a coating that covers the whole length of the filter or with a section that allows UV light to pass.

Filter-based Spectrometers



An ultra-compact spectrometer can be made by placing a Linear Variable Bandpass Filter (LVBF) in front of a linear diode array detector. LVBFs vary their center wavelength along a linear axis, typically along the long dimension of the filter substrate.

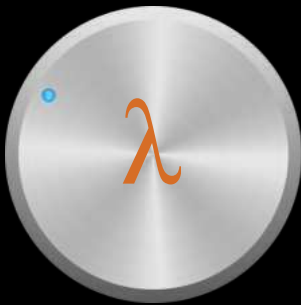
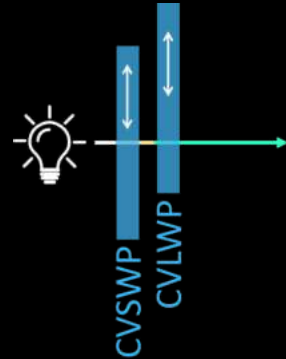
Array detector

Delta Optical Thin Film has extensive experience in manufacturing LVBFs for different wavelength ranges and with high in-band transmission and deep out-of-band blocking.



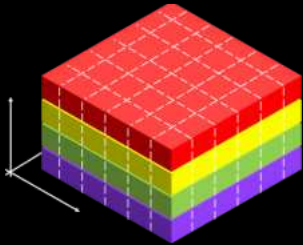
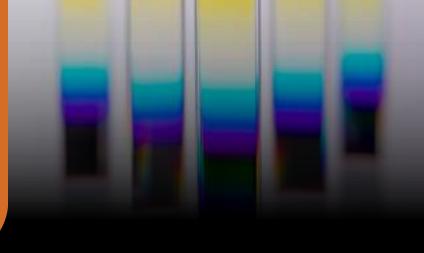
Tunable light sources

By combining a Linear Variable Long-Wave Pass (LVLWP) filter with a corresponding Linear Variable Short-Wave Pass (LVSWP) filter, a tunable bandpass filter can be created. When paired with a broadband light source, a tunable light source is formed. This setup allows both the bandwidth and the center wavelength of the light source to be adjusted.



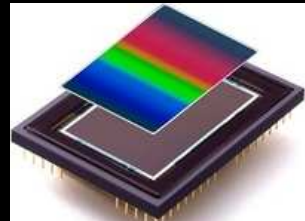
With over a decade of experience in designing and manufacturing Linear Variable Filters (LVFs), Delta Optical Thin Film offers competitive solutions to meet various challenges. Our refined processes ensure high-quality, cost-effective products tailored to your specific needs.

Hyperspectral Imaging



A hyperspectral imaging device is a spectral line scanner used to extract both spatial and spectral information from a moving object. The scanner can be constructed by placing a Linear Variable Filter (LVF) directly over a 2D sensor array, providing spectral separation along one axis and spatial separation along the perpendicular axis.

With over a decade of experience in designing and manufacturing Linear Variable Filters (LVFs), Delta Optical Thin Film offers competitive solutions to meet various challenges. Our refined processes ensure high-quality, cost-effective products tailored to your specific needs.



Filters for Machine Vision

Cameras for machine vision often employ one or more optical filters to improve image clarity, enhance contrast, reduce glare, and isolate specific wavelength bands.

Delta Optical Thin Film specializes in the design and manufacture of optical filters custom-tailored for applications where off-the-shelf filters or standard sets are not suitable.



Astro filters



Multi-bandpass filters are commonly used in astronomy to isolate specific atomic lines from deep sky objects. These filters enable precise detection of targeted wavelengths, enhancing the study of celestial bodies. By selectively filtering out unwanted wavelengths, they provide clearer, more detailed spectral data, crucial for astrophysical research and observations.

Delta Optical Thin Film manufactures Multi-Bandpass Filters for astronomy like H-alpha/OIII filters.





Delta as your OEM optical filter supplier

Since the 1970s, Delta Optical Thin Film has collaborated with customers to design and manufacture custom optical filter solutions that meet exact specifications and budgets. Our experienced design team, with over 75 years of expertise, works closely with your development team to optimize manufacturing tolerances, reduce costs, and ensure system performance.

We specialize in Homogeneous Bandpass, Edge and Blocking Filters, Dichroic Beam Splitters, and Linear Variable Filters. Utilizing advanced design and proprietary deposition control software, we deliver efficient design processes and rapid prototyping to meet your specifications, timeline, and budget. Contact us to discuss your next innovative project!

Our team



Contact us



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