



# Linear Variable Filters



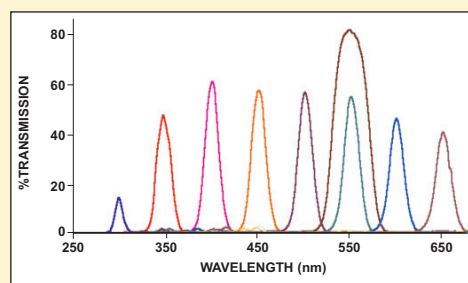
## Novel Filtering Technology

We've combined our patented high-pass and low-pass Linear Variable Filters to create the world's first bandpass filter with an adjustable center wavelength and adjustable bandpass. Each filter features an excellent transmission band (~90%) and blocking band (99.8%). These filters -- with interference coatings applied to 57 mm x 10 mm quartz substrates -- are especially useful for spectrally shaping the excitation energy from broadband sources used for fluorescence.

## Slide Carriers

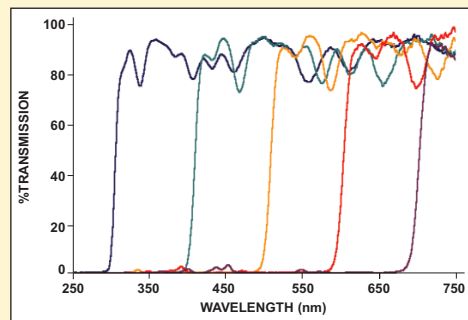
These off-the-shelf filters are epoxied into slide carriers that allow you to move the transmission or blocking band throughout the filter's wavelength range.

### LVF-HL Variable Bandwidth Filter



These spectra were taken with an LVF-HL to show how a transmission bandwidth can be set throughout the filter's range (300-750 nm).

### LVF-H High-pass Filter



The transition wavelength from blocking to transmission band varies according to the filter's position in front of the collimating lens.

## Single High-pass & Single Low-pass Filter

The LVF-H High-pass Filter is a single filter that blocks light at 98.8% up to a transition wavelength that varies along its length. At that point, the LVF-H passes light better than 90%. The LVF-L Low-pass Filter is a single filter that passes light at 88% up to a transition wavelength that varies along its length. At that point, the LVF-L blocks light better than 98.8%.

## Double High-pass & Double Low-pass Filters

We take two identical LVF-H or LVF-L filters, align them so that the transition wavelengths of both filters are matched, and then epoxy them together in their slide carriers. The benefit of having double filters versus a single filter is that the optical density of the blocking band increases to 99.96%. However, the transmission band is reduced to 80%.

## High-pass & Low-pass Variable Bandpass Filters

By fastening together a high-pass filter and a low-pass filter, we created a variable bandpass filter that allows you to adjust the center wavelength and the bandwidth. We preset the transmission bandwidth at ~25 nm FWHM, but adjusting four screws allows you to slide the filters against one another to create a transmission bandwidth as wide as ~100 nm and as narrow as ~20 nm.

## LVF Accessories

The LVF filters and slide carriers can be inserted easily into spectrometer setups with our LVF accessories. See the next page for details.

Item	Description
LVF-H	A single high-pass filter for 300-750 nm
LVF-L	A single low-pass filter for 300-750 nm
LVF-HH	Two LVF-H high-pass filters epoxied together for 300-750 nm
LVF-LL	Two LVF-L low-pass filters epoxied together for 300-750 nm
LVF-HL	An LVF-H high-pass filter and LVF-L low-pass filter fastened together to create an adjustable bandpass linear variable filter
LVF-UV-H	A single high-pass filter for 230-500 nm
LVF-UV-L	A single low-pass filter for 230-500 nm
LVF-UV-HH	Two LVF-UV-H high-pass filters epoxied together for 230-500 nm
LVF-UV-LL	Two LVF-UV-L low-pass filters epoxied together for 230-500 nm
LVF-UV-HL	An LVF-UV-H high-pass filter and LVF-UV-L low-pass filter fastened together to create an adjustable bandpass linear variable filter

