Semrock High Performance Optical Filter Catalog

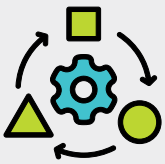
ENGINEERED FOR A VARIETY OF APPLICATIONS

Semrock High Performance Optical Filters from IDEX Health & Science deliver cutting-edge solutions for researchers and OEMs who demand the absolute highest signal-to-noise ratios in the industry. We operate under the principle that superior imaging begins with filter sets tailored to your application. Explore this catalog to discover the advantages of our Avant™, BrightLine®, and BrightLine® 2.0 filters, featuring enhanced throughput and optimized spectral efficiency designed to capture more signal with a darker background.

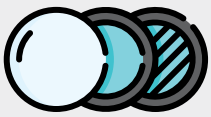
DISCOVER WHAT'S INSIDE:



25 Years of Semrock Innovation



High-Performance Filter Fundamentals



Filter Sets for Modern Imaging Systems

IDEX HEALTH & SCIENCE | Semrock

Intelligent Solutions for Life®
Fluidics | Optics | Consumables | Assemblies

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Introduction

See More in Your System with Semrock High-Performance Optical Filters

For more than two decades, Semrock optical filters from IDEX Health & Science have set the benchmark for stability, spectral precision, and signal-to-noise ratio in life-science, analytical, and clinical instruments. Our flagship BrightLine® filter family brought hard-coated optical filters to the life science market, with benefits of no burn-out, high transmission, sharp-cornered rectangular-shaped passbands, repeatability of filter edge placement, and deep OD blocking compared to incumbent soft-coated optical filters. Additionally, the ZERO™ filter sets offer "zero pixel shift" – consistent colocalization of fluorescent features, even when switching filter sets for multicolor imaging. Built on hard-sputtered coatings that resist environmental degradation and drift, Semrock filters deliver the consistency required for faster measurements, reliable results, and long-term instrument uptime.

Single-Band Sets

COMPARISON OF SEMROCK HIGH PERFORMANCE FILTER FAMILIES

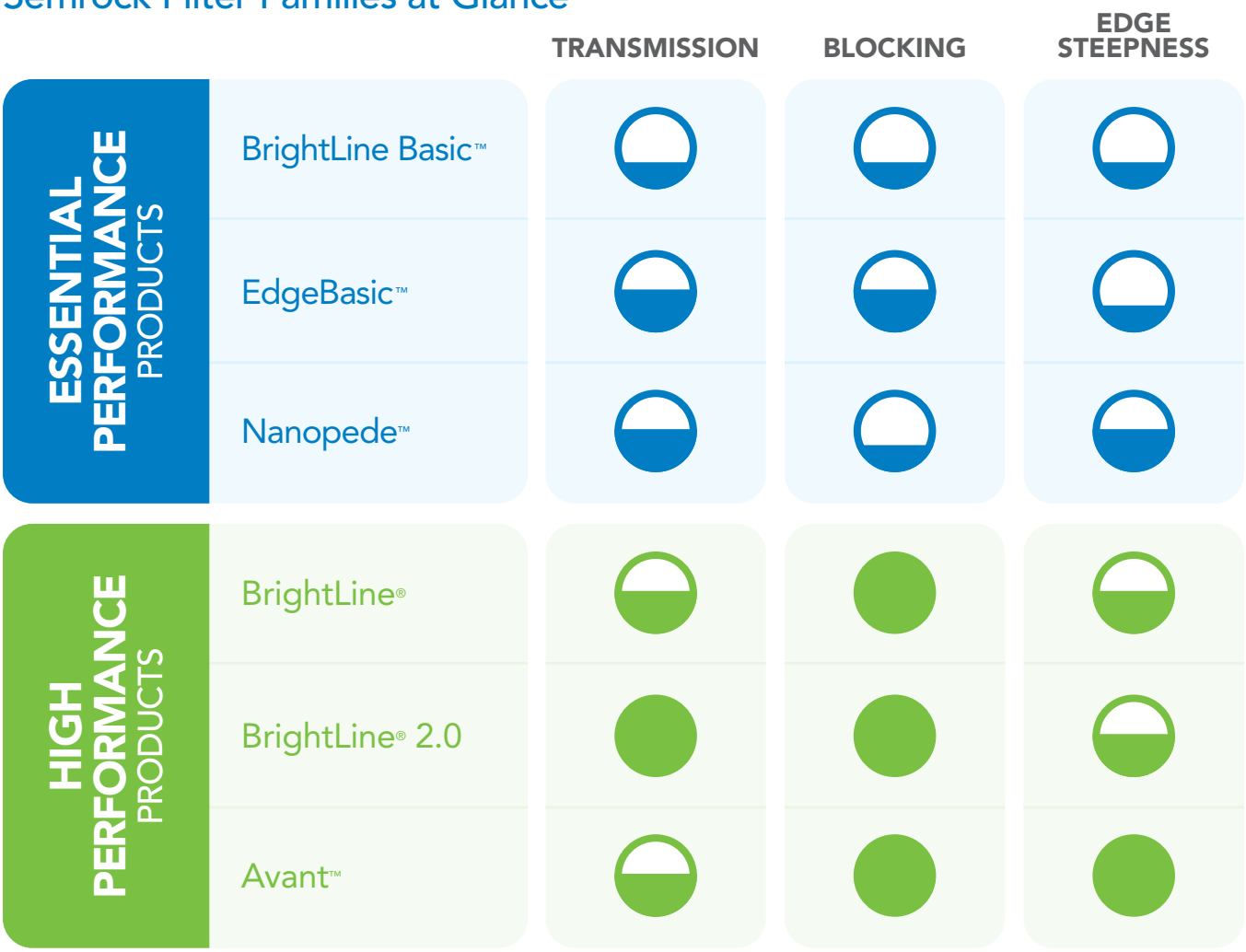
	Avant™ 8 SINGLE-BAND SETS	BrightLine® 2.0 12 SINGLE-BAND SETS	BrightLine® 105 SINGLE & MULTIBAND SETS
Improvement	Up to 40% higher signal (brightness) relative to BrightLine	Improved contrast (signal-to-noise)	Standard contrast, standard signal
Gap Between Excitation & Emission filters	Minimized for short Stokes shift fluorophores	Larger gap for fluorophore versatility	Larger gap for fluorophore versatility
Fluorophore Coverage	Optimized for challenging fluorophores (e.g., mCherry, YFP, Cy5.5)	Designed for flexibility	Designed for flexibility
Transmission	≥ 93%	≥ 95%	≥ 93%
Blocking Performance	OD8–10 in critical regions	OD6–10 typical	Varies based on set
Edge Steepness	Ultra-steep edges	Standardized steep edges across filter family	Varied steep edges by application and filter type
Light Sources	Modern light sources (LEDs, light engines, lasers, etc.)	Compatible with a broad range of light sources	Compatible with a broad range of light sources
Applications	High-end fluorescence imaging	General fluorescence imaging	General fluorescence imaging

Our latest portfolio advances the BrightLine® legacy with BrightLine® 2.0 and Avant™ – two families engineered for modern LED and laser light engines and the higher dynamic range of today's CMOS detectors. Steeper edges, deeper blocking, and high transmission capture more signal while keeping backgrounds dark, so your systems resolve more biology with less time to result.

Whether you need proven compatibility for legacy platforms (BrightLine®), high-contrast versatility across many fluorophores (BrightLine® 2.0), or the steepest edges and narrowest spectral gaps for short Stokes shift dyes (Avant™), you'll find matched exciters, emitters, and dichroics designed as sets to maximize brightness and contrast – right out of the box.

To help you choose with confidence, we provide application-ready sets, a broad in-stock catalog, and modeling tools like SearchLight™ to predict relative brightness, autofluorescence, and SNR for your configuration – so you can optimize before you build.

Semrock Filter Families at Glance



Relative performance by product family (full circle = best).

TECHNICAL NOTE

High Performance Fundamentals

Many filter types exist, including widely used off-the-shelf varieties and custom optical filters designed for specific applications. Each filter offers unique properties to exert precise light control. While each filter type has a unique spectral response, there exist common spectral and physical specifications across all filter types.

A fluorescence filter set, as pictured in Figure 1, consists of an excitation bandpass filter, a dichroic beamsplitter, and an emission bandpass filter. Filter sets are designed to work together to achieve optimal brightness, contrast, or both, for specific fluorophores. The BrightLine®, BrightLine® 2.0, and Avant™ filter families are sets of such filters optimized for popular fluorophores.

Transmission

Usually specified as a percentage of incident light, transmission is the light passing through the filter without being absorbed or reflected. Transmission is calculated as:

$$T\% = 100 * (I_T / I_O)$$

I_T = Intensity transmitted through the filter

I_O = Intensity incident on the filter

BrightLine® and Avant™ filter families are specified as T_{avg}>93% over the passband for bandpass filters and over the transmission region for the dichroics. BrightLine® 2.0 is specified as T_{avg}>95% over the passband for bandpass filters and over the transmission region for the dichroics.

For sets of bandpass filters, the *complementary bands* are where each bandpass filter transmits light relative to its matched pair. The exciter transmits light to the blue, whereas the emitter transmits light to the red. The exciter's complementary band is where the emitter's passband is, and vice versa for the emitter.

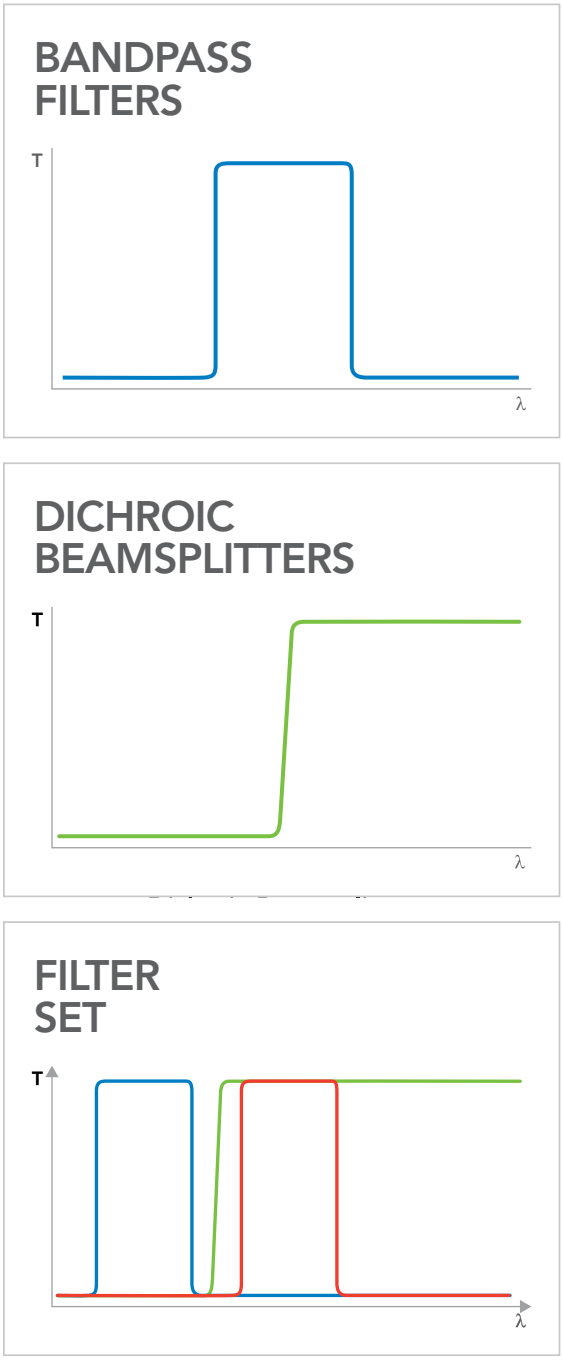


Figure 1. The constituents of an optical filter set are two bandpass filters and one dichroic mirror.

High Performance Fundamentals (Continued)

OD Blocking

Blocking is defined as the wavelength range over which minimal transmission is desired. Often, transmission is a small value, thus better described as a logarithmic blocking value. Blocking is measured in units of Optical Density (OD), defined as:

$$OD = -\text{Log}_{10}(T)$$

where T is expressed as a value between 0 and 1. Deeper OD blocking means lower transmission: OD1 = 10% transmission, whereas OD6 means one photon in a million passes through the filter.

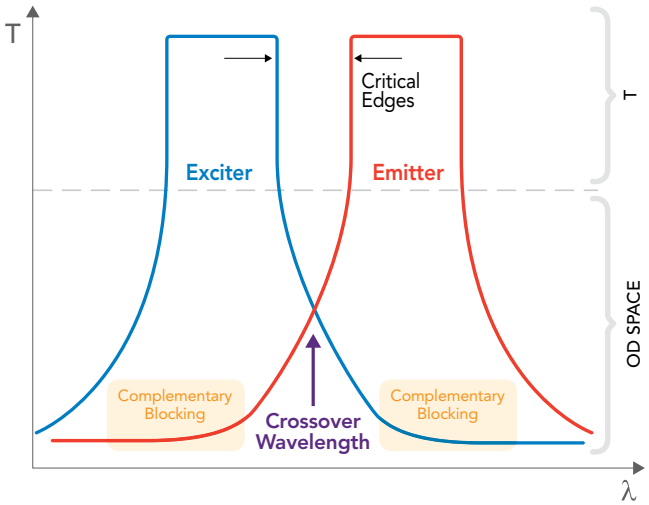


Figure 2. Exciters and emitters are designed as a pair using several key parameters to ensure optimal performance.

Deep blocking over the bandpass' complementary bands is vital to block stray light, the light source, and other unwanted photons from reaching the detector. BrightLine® 2.0 is designed for OD_{avg}>8 complimentary blocking while Avant™ is designed for OD_{avg}>10 complimentary blocking. In addition, an OD3.5 point at the *crossover wavelength* ensures the bandpass critical (proximal) edges do not overlap too closely such that the complimentary blocking is compromised. The crossover wavelength is the wavelength limiting the red shift of the exciter and the blue shift of the emitter such that the point at which the edges overlap is OD>7.

Detectors preserving the spatial resolution of a sample, such as a camera, require blocking over the responsivity of the detector to ensure a dark background and thus high contrast. At present, many cameras have sensitivity into the NIR, but the quantum efficiency is greatly reduced compared to visible wavelength regions. Semrock filter families use a *stepped approach* to OD blocking, which means deeper blocking where detectors are most sensitive, with reduced blocking where responsivity is reduced. In this manner, filter sets balance performance and price point. Avant™ offers OD>2 in the NIR, while BrightLine® 2.0 offers OD>3 in this same region.

Reflection

When a filter operates at a non-normal angle of incidence (AOI), one may consider reflection in addition to transmission, particularly for high AOIs such as dichroics at 45 degrees. Reflection is typically defined as:

$$R = 1 - T - A$$

where T is between 0 and 1 and A is the absorption, which is particularly strong in the UV. High reflection over the excitation passband ensures unwanted light source photons are efficiently redirected rather than transmitted, preserving contrast and minimizing stray light.

While all Semrock filter families maintain consistent AOI tolerance and hard-coating durability, the reflectivity wavelength range varies by family. Avant™ filters are engineered with a narrower reflection range, tailored specifically to the fluorophore and filter set. This design approach enables steeper edges while balancing cost. By limiting reflection to only what is needed for the set, Avant™ achieves premium spectral separation without overengineering.

By comparison, BrightLine® 2.0 implements a broader reflection range, making it a versatile, general-purpose family suitable for diverse applications. This wider range supports flexibility across multiple fluorophores with slightly less steep edges compared to Avant™.

High Performance Fundamentals (Continued)

Edge Steepness

Edge steepness is the actual spectral steepness of a filter, measured from OD3.5 to the transmission region for bandpass filters and from T = 5% to T = 50% for dichroic mirrors. In Figure 3, the edge steepness increases as requirements move from essential specifications to premium specifications. BrightLine Basic™ has the least steep edge, while Avant™ has the steepest edge. BrightLine® 2.0 strikes a balance between edge steepness, price, and performance.

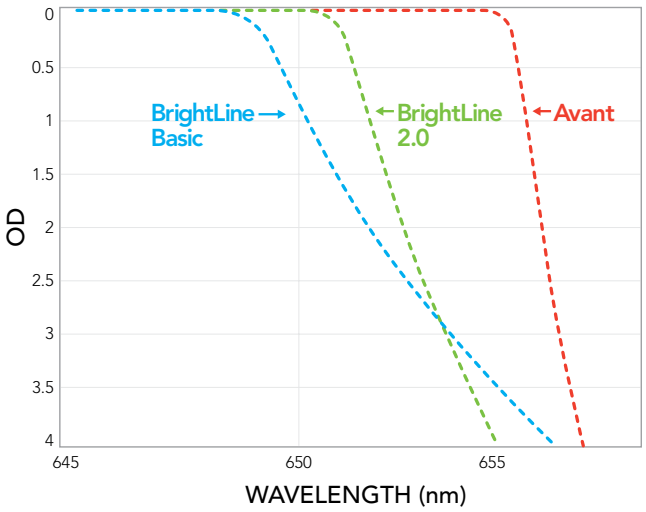


Figure 3. Bandpass edge steepness comparison.

Precise Edge Placement

In current practice, the "gap" between the critical bandpass edges is usually located quite asymmetrically with respect to the crossover wavelength for the fluorophore. This asymmetry pushes the emitter passband out to longer wavelengths, resulting in less emission light captured by the emission filter and therefore reduced filter set performance.

Our Semrock Avant™ Filter Set Family was engineered to resolve this "gap" limitation. Through precise control of edge placement and crossover geometry, Avant™ filters enable higher signal capture and improved fluorescence performance compared to standard designs.

Particularly useful for short Stokes shift fluorophores, Avant™ filter sets enable excitation sources closer to the peak excitation of the fluorophore in addition to collecting more signal near the peak of emission, as seen in Figure 4. In practice, this means a higher signal without compromising the signal-to-noise ratio.

Precise edge placement is one of the premium features of the Avant™ filter family.

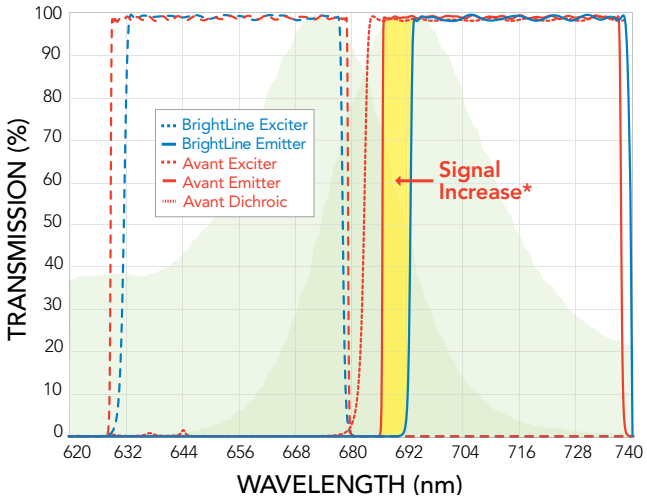
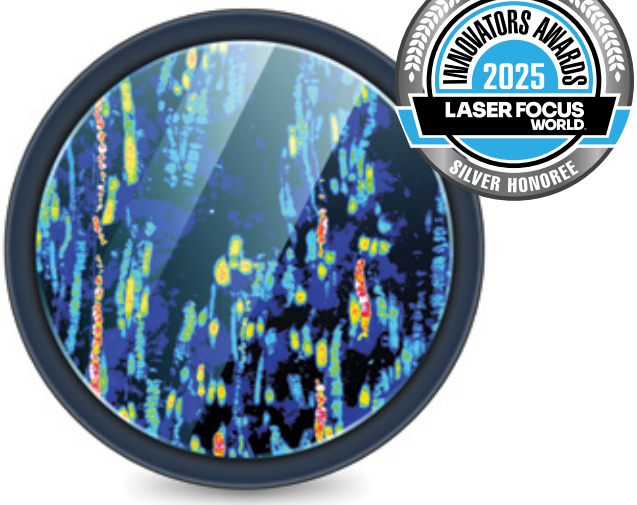


Figure 4. Avant™ Cy5.5 set compared to BrightLine® set as modeled in SearchLight™.

BrightLine® 2.0

Next-Generation Performance and Usability

BrightLine® 2.0 builds on the proven success of BrightLine® with enhanced design features for modern imaging needs. Engineered for high contrast and optimized for modern light sources such as LEDs and lasers, BrightLine® 2.0 maintains compatibility with legacy systems while offering superior blocking and transmission for cleaner, more accurate imaging. This family introduces improved specifications and a simplified selection process for a variety of applications and workflows.



Key Features:

- **Enhanced Specifications:** Improved blocking and transmission for improved contrast (signal-to-noise ratio).
- **Simplified Selection:** Standardized sets make choosing the right filters easy.
- **Future-Ready:** Optimized for compatibility with modern and emerging imaging technologies and light sources while maintaining compatibility with legacy detectors and light sources.

LEARN MORE ABOUT BRIGHTLINE® 2.0 AT IDEX-HS.COM/INFO-BRIGHTLINE

★ Some sets are available in -ZERO Configuration.

BrightLine® 2.0 Single-Band Sets

Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
BFP, DAPI, Hoechst 33258, Hoechst 33342, Hoechst 34580, AMCA, Alexa Fluor 350	392/21	459/62	415	BFP-A-000
GFP , Cy2, CyQuant Cell Proliferation Assay	466/40	525/50	493	GFP-4050C-000
FITC (Fluorescein), GFP (EGFP), DiO, 5-FAM (5-carboxyfluorescein), Cy2™, MitoTracker™ Green, TurboGFP, sgGFP™ (super glow GFP), wtGFP (wild type GFP, non-UV excitation), YOYO-1	475/27	525/46	495	LED-FITC-B-000
FITC , 5-FAM, Alexa Fluor 488, BODIPY, Calcein	475/50	540/52	508	FITC-5052A-000
FITC , 5-FAM, Alexa Fluor 488, BODIPY, Calcein	482/35	536/41	508	FITC-3541A-000
FITC , 5-FAM, Alexa Fluor 488, BODIPY, Calcein	487/23	524/25	504	FITC-2325A-000
Cy3, DsRed, Alexa Fluor 555, Calcium Orange, LysoTracker Yellow, MitoTracker Orange, Phycoerythrin, Rhodamine Phalloidin, 5-TAMRA	533/44	593/40	564	Cy3-4040D-000
TRITC – "reddish" appearance, dTomato, Alexa Fluor 546, Rhodamine, DiI	543/22	593/40	564	TRITC-C-000
TRITC (Tetramethylrhodamine), 2-dodecylresorufin-lipid, ATTO 565, DsRed, Propidium Iodide (PI), SpectrumOrange, dTomato, mApple, mRFP, mRuby, mTangerine	555/26	609/54	574	LED-TRITC-B-000
Texas Red, mCherry, mRFP1, 5-ROX , Alexa Fluor 568	562/40	622/44	591	TxRed-4040D-000
Cy5, SpectrumFRed – Lipophilic Tracer, SYTO Red Fluorescent Nucleic Acid Stains 60, 62, 63, TOTO-3, TO-PRO-3	628/40	688/41	658	Cy5-4040D-000
Cy5, SpectrumFRed – Lipophilic Tracer, SYTO Red Fluorescent Nucleic Acid Stains 60, 62, 63, TOTO-3, TO-PRO-3	635/18	680/42	652	LED-Cy5-B-000

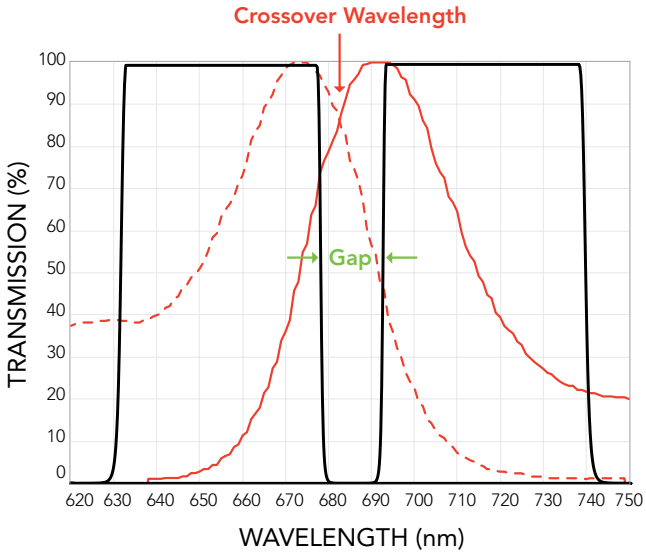
BrightLine® 2.0 (Continued)

BrightLine® 2.0 Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
392 nm	> 95% over 21 nm	25 mm x 5.0 mm	2.0 mm	FF01-392/21-25
459 nm	> 95% over 62 nm	25 mm x 3.5 mm	2.0 mm	FF01-459/62-25
466 nm	> 95% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF02-466/40-25
475 nm	> 95% over 27 nm	25 mm x 5.0 mm	2.0 mm	FF01-475/27-25
475 nm	> 95% over 50 nm	25 mm x 5.0 mm	2.0 mm	FF03-475/50-25
482 nm	> 95% over 35 nm	25 mm x 5.0 mm	2.0 mm	FF02-482/35-25
487 nm	> 95% over 23 nm	25 mm x 5.0 mm	2.0 mm	FF01-487/23-25
524 nm	> 95% over 25 nm	25 mm x 3.5 mm	2.0 mm	FF01-524/25-25
525 nm	> 95% over 46 nm	25 mm x 3.5 mm	2.0 mm	FF01-525/46-25
525 nm	> 95% over 50 nm	25 mm x 3.5 mm	2.0 mm	FF04-525/50-25
533 nm	> 95% over 44 nm	25 mm x 5.0 mm	2.0 mm	FF01-533/44-25
536 nm	> 95% over 42 nm	25 mm x 3.5 mm	2.0 mm	FF01-536/41-25
540 nm	> 95% over 52 nm	25 mm x 3.5 mm	2.0 mm	FF01-540/52-25
543 nm	> 95% over 22 nm	25 mm x 5.0 mm	2.0 mm	FF02-543/22-25
555 nm	> 95% over 23 nm	25 mm x 5.0 mm	2.0 mm	FF01-555/23-25
562 nm	> 95% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF02-562/40-25
593 nm	> 95% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF02-593/40-25
609 nm	> 95% over 54 nm	25 mm x 3.5 mm	2.0 mm	FF02-609/54-25
622 nm	> 95% over 44 nm	25 mm x 3.5 mm	2.0 mm	FF01-622/44-25
628 nm	> 95% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF03-628/40-25
635 nm	> 95% over 18 nm	25 mm x 5.0 mm	2.0 mm	FF02-635/18-25
680 nm	> 95% over 42 nm	25 mm x 3.5 mm	2.0 mm	FF02-680/42-25
688 nm	> 95% over 41 nm	25 mm x 3.5 mm	2.0 mm	FF01-688/41-25

Avant™

Avant™ filters represent the pinnacle of optical performance for applications requiring the most demanding specifications. Our industry-leading optical filter family is engineered to maximize fluorescence signal by narrowing the "Gap" between excitation and emission passbands – especially crucial for short Stokes Shift fluorophores. This minimizes excitation bleed-through and enhances emission capture efficiency. Avant™ filters deliver the steepest edges and narrowest spectral gaps in the Semrock portfolio.



Key Features:

- **Steepest Edges:** Exceptional edge steepness reduces bleed-through and improves accuracy.
- **Narrow Gap Design:** Optimization for short Stokes Shift fluorophores ensures light source excitation near peak absorption and signal capture nearest the fluorophore's emission peak.
- **High Signal Performance:** Maximizes transmission in passbands while maintaining superior blocking.

LEARN MORE ABOUT AVANT™ AT IDEX-HS.COM/INFO-AVANT

Avant™ Filters Family Set

Filter Set	Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Part Number
Avant-YFP	Yellow Fluorescent Protein (YFP) and Venus, and other green fluorophores	504/24	539/27	521 nm	Avant-YFP-000
Avant-Cy3	Cy3 and Alexa Fluor 555 and other orange fluorophores	535/40	584/40	560 nm	Avant-Cy3-000
Avant-AF546	Alexa Fluor 546, ATTO 550 and other orange fluorophores	551/22	592/42	567 nm	Avant-AF546-000
Avant-mCherry	mCherry, Alexa Fluor 568, ATTO 590 and other orange and red fluorophores	567/50	641/77	597 nm	Avant-mCherry-000
Avant-TxRed	Texas Red, Alexa Fluor 594, ATTO 590 and other red fluorophores	585/29	626/35	604 nm	Avant-TxRed-000
Avant-Cy5	Cy5, Alexa Fluor 647, ATTO 643 and other red fluorophores	633/40	684/40	659 nm	Avant-Cy5-000
Avant-Cy5.5	Cy5.5 and Alexa Fluor 680 and other deep-red and near-infrared fluorophores	653/47	712/48	683 nm	Avant-Cy5.5-000
Avant-Cy7	Cy7 and Alexa Fluor 750 and other near-infrared fluorophores	720/75	811/81	764 nm	Avant-Cy7-000

Avant™ (Continued)

Avant™ Single BP filters

Center Wavelength	Transmission/Bandwidth	Housed Size	Glass Thickness	Part Number
504 nm	T_{avg} > 93% over 24 nm	25 mm × 5 mm	2.0 mm	AF01-504/24-25
535 nm	T_{avg} > 93% over 40 nm	25 mm × 5 mm	2.0 mm	AF01-535/40-25
539 nm	T_{avg} > 93% over 27 nm	25 mm × 3.5 mm	2.0 mm	AF01-539/27-25
551 nm	T_{avg} > 93% over 22 nm	25 mm × 5 mm	2.0 mm	AF01-551/22-25
567 nm	T_{avg} > 93% over 50 nm	25 mm × 5 mm	2.0 mm	AF01-567/50-25
584 nm	T_{avg} > 93% over 40 nm	25 mm × 3.5 mm	2.0 mm	AF01-584/40-25
585 nm	T_{avg} > 93% over 29 nm	25 mm × 5 mm	2.0 mm	AF01-585/29-25
592 nm	T_{avg} > 93% over 42 nm	25 mm × 3.5 mm	2.0 mm	AF01-592/42-25
626 nm	T_{avg} > 93% over 35 nm	25 mm × 3.5 mm	2.0 mm	AF01-626/35-25
633 nm	T_{avg} > 93% over 40 nm	25 mm × 5 mm	2.0 mm	AF01-633/40-25
641 nm	T_{avg} > 93% over 77 nm	25 mm × 3.5 mm	2.0 mm	AF01-641/77-25
653 nm	T_{avg} > 93% over 47 nm	25 mm × 5 mm	2.0 mm	AF01-653/47-25
684 nm	T_{avg} > 93% over 40 nm	25 mm × 3.5 mm	2.0 mm	AF01-684/40-25
712 nm	T_{avg} > 93% over 48 nm	25 mm × 3.5 mm	2.0 mm	AF01-712/48-25
720 nm	T_{avg} > 93% over 75 nm	25 mm × 5 mm	2.0 mm	AF01-720/75-25
811 nm	T_{avg} > 93% over 81 nm	25 mm × 3.5 mm	2.0 mm	AF01-811/81-25

Avant™ Single Edge Dichroic Beamsplitters

Nominal Edge Wavelength	Avg Reflection Band	Avg Transmission Band	Size (mm)	Glass Thickness	Part Number
521 nm	R_{avg} > 98% 470 - 516.5 nm	T_{avg} > 93% 525 - 580 nm	25.2×35.6	1.05 mm	AF521-Di01-25x36
560 nm	R_{avg} > 98% 495 - 550 nm	T_{avg} > 95% 575 - 650 nm	25.2×35.6	1.05 mm	AF560-Di01-25x36
567 nm	R_{avg} > 98% 510 - 562 nm	T_{avg} > 93% 571 - 650 nm	25.2×35.6	1.05 mm	AF567-Di01-25x36
597 nm	R_{avg} > 98% 510 - 592 nm	T_{avg} > 93% 602 - 720 nm	25.2×35.6	1.05 mm	AF597-Di01-25x36
604 nm	R_{avg} > 98% 540 - 599 nm	T_{avg} > 93% 609 - 680 nm	25.2×35.6	1.05 mm	AF604-Di01-25x36
659 nm	R_{avg} > 98% 580 - 653 nm	T_{avg} > 93% 664 - 740 nm	25.2×35.6	1.05 mm	AF659-Di01-25x36
683 nm	R_{avg} > 98% 600 - 677 nm	T_{avg} > 93% 688 - 770 nm	25.2×35.6	1.05 mm	AF683-Di01-25x36
764 nm	R_{avg} > 98% 650 - 758 nm	T_{avg} > 93% 789 - 890 nm	25.2×35.6	1.05 mm	AF764-Di01-25x36

PRODUCT NOTE

Customizing a Set

Each modern Semrock filter family is engineered around a distinct design philosophy. Within a given family, excitation, emission, and dichroic filters are designed to work together as an integrated system, balancing transmission, blocking, and edge steepness to meet the specific performance goals of that product line.

Although it is possible to combine filters from different families, doing so may require trade-offs because each family is optimized with its own design assumptions and priorities. Depending on the application, mixed-family configurations can deliver acceptable results, or may benefit from additional evaluation to ensure optimal performance.

Previous custom mix-and-match approaches were more straightforward because many Semrock filters shared similar underlying design priorities. Newer product families, however, incorporate more specialized coating architectures and application-driven optimizations. For example, Avant™ filters are tailored for demanding applications involving fluorophores with short Stokes shifts, requiring extremely steep edges and minimal crosstalk. BrightLine® 2.0 filters emphasize exceptional signal-to-noise performance and broad versatility, while BrightLine Basic™ focuses on delivering strong performance value for routine imaging.

When filters from different families are combined, these differing design approaches can influence overall system behavior, including excitation efficiency, blocking effectiveness, and image contrast. In some cases, performance may align with the expectations of the highest-performing component; in others, the overall result may be limited by the more performance-value-oriented elements in the set. For instance, pairing a high-performance Avant™ filter with BrightLine Basic™ components may yield results consistent with BrightLine Basic-level performance, while incorporating the cost of the premium filter. Understanding these interactions helps ensure the right balance of performance and value for your application.

Selecting all filters from the same family remains the most straightforward way to ensure the system performs as intended, delivering the signal quality, spectral separation, and imaging reliability each product line is designed to provide. At the same time, cross-family combinations can be a practical and effective approach, particularly during early-stage development.

For OEM customers, mixing filters across families paired with accurate system modeling can be an efficient way to rapidly prototype and evaluate system performance before transitioning to a fully optimized or custom-designed filter set for volume production. This flexibility allows teams to explore design tradeoffs quickly while maintaining a clear path toward final system optimization.

Legacy compatibility remains flexible. For example, legacy BrightLine® filters can be paired with BrightLine® 2.0 filters, and legacy BrightLine Basic™ filters can be combined with current BrightLine Basic™ designs, typically with only minor performance differences.

To support these decisions, Semrock offers both analytical tools and expert guidance. The SearchLight™ tool, available on our website (searchlight.idex-hs.com), empowers users to interactively analyze specific fluorophores and filter combinations, helping visualize spectral performance and potential tradeoffs. In parallel, our Applications Scientists work directly with OEM customers to understand system requirements and recommend optimized solutions tailored to the application.

In summary: selecting filters within a single filter family provides simplicity and confidence, while cross-family combinations can be a valuable and effective option when approached thoughtfully, with the support of the right tools and expertise.

CONTACT OUR EXPERTS TODAY TO BEGIN YOUR CUSTOM OPTICAL FILTER DESIGN AT IDEX-HS.COM/CUSTOM-OPTICS

BrightLine®

Proven Performance

BrightLine® filters balance precision and value, making them a trusted choice for a wide range of research and industrial applications. Over many years of use, our BrightLine® filters have been widely tested in both research and clinical fields. With a broad offering, creating custom sets tailored to your fluorophores and applications is easy. In addition to single-band bandpass filters, BrightLine® offers multi-band sets, including full multi-band, Pinkel, and Sedat sets – for multiplexing applications.

Key Features:

- **Legacy Compatibility:** Designed for Mercury Vapor, Xenon Arc, Metal Halide lamps, some LEDs and lasers, and conventional detectors.
- **Proven Reliability:** A trusted solution for standard fluorescence imaging and industrial applications.
- **Balanced Design:** Good transmission and blocking for general-purpose use.

LEARN MORE ABOUT BRIGHTLINE® 2.0 AT IDEX-HS.COM/INFO-BRIGHTLINE

BrightLine® Single-Band Sets

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
TRP-A Tryptophan Designed for UV fluorescence Use with UV LED or filtered Xe arc lamps, or detectors not sensitive to near-IR light.	280/20	357/44	310 nm	TRP-A-000
DAPI-11LP-A (Longpass) DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350	387/11	409/LP	409 nm	DAPI-11LP-A-000
DAPI-50LP-A (Longpass) DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350	377/50	409/LP	409 nm	DAPI-50LP-A-000
BV421-3824A BD Horizon Brilliant™ Violet 421, DAPI, Alexa Fluor® 405, DyLight405	389/38	433/24	414 nm	BV421-3824A-000
DAPI-1160B (Highest Contrast) DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350	387/11	447/60	409 nm	DAPI-1160B-000
DAPI-5060C (Highest Brightness) DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350	377/50	447/60	409 nm	DAPI-5060C-000

BrightLine® Single-Band Sets (Continued)

BrightLine® Single-Band Sets (Continued)

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
BV480-2432A BD Horizon Brilliant™ Violet 480, CFP, Cerulean, SpectrumAqua	438/24	483/32	458 nm	BV480-2432A-000
CFP-2432C CFP, mTFP, ECFP, mTurquoise, CYTOX Blue, BOBO-1, Cerulean	438/24	483/32	458 nm	CFP-2432C-000
FURA2-C (Four Filter Set) Fura-2 Ca++ indicator, YoYo-1, Yellow/Blue	Ex1: 340/26 Ex2: 387/11	510/84	409 nm	FURA2-C-000
GFP-1828A (Highest Contrast) GFP, (EGFP), DiO, Cy2™, YOYO-1, YO-PRO-1	482/18	520/28	495 nm	GFP-1828A-000
GFP-3035D (All Purpose) GFP, (EGFP), DiO, Cy2™, YOYO-1, YO-PRO-1	472/30	520/35	495 nm	GFP-3035D-000
GFP-30LP-B (Longpass) GFP, (EGFP), DiO, Cy2™, YOYO-1, YO-PRO-1	472/30	496/LP	495 nm	GFP-30LP-B-000
GFP-4050B (Highest Brightness) GFP, (EGFP), DiO, Cy2™, YOYO-1, YO-PRO-1	466/40	525/50	495 nm	GFP-4050B-000
FITC-2024B (Highest Contrast) FITC, rsGFP, Bodipy, 5-FAM, Fluo-4, Alexa Fluor® 488	485/20	524/24	506 nm	FITC-2024B-000
FITC-3540C (All Purpose) FITC, rsGFP, Bodipy, 5-FAM, Fluo-4, Alexa Fluor® 488	482/35	536/40	506 nm	FITC-3540C-000
FITC-5050A (Highest Brightness) FITC, rsGFP, Bodipy, 5-FAM, Fluo-4, Alexa Fluor® 488	475/50	540/50	506 nm	FITC-5050A-000
YFP-2427B YFP, Calcium Green-1, Eosin, Fluo-3, Rhodamine 123	500/24	542/27	520 nm	YFP-2427B-000
TRITC-B TRITC, Rhodamine, DII, 5-TAMRA, Alexa Fluor® 532 & 546	543/22	593/40	562 nm	TRITC-B-000

BrightLine® Single-Band Sets (Continued)

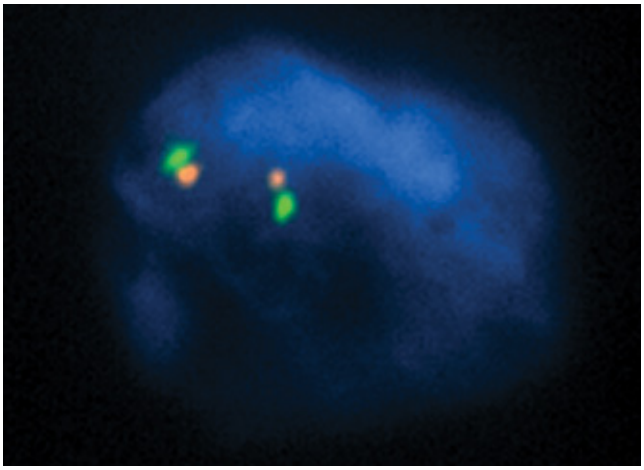
BrightLine® Single-Band Sets (Continued)

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
Cy3-4040C Cy3™, DsRed, PE, 5-TAMRA, Calcium Orange, Alexa Fluor® 555	531/40	593/40	562 nm	Cy3-4040C-000
TxRed-4040C Texas Red®, Cy3.5™, 5-ROX, Mitotracker Red, Alexa Fluor® 568 & 594	562/40	624/40	593 nm	TxRed-4040C-000
mCherry-40LP-A (Longpass) mCherry, mRFP1	562/40	593/LP	593 nm	mCherry-40LP-A-000
mCherry-C mCherry, mRFP	562/40	641/75	593 nm	mCherry-C-000
Cy5-4040C Cy5™, APC, DiD, Alexa Fluor® 647 & 660	628/40	692/40	660 nm	Cy5-4040C-000
Cy5.5-C Cy5.5™, Alexa Fluor® 680 & 700	655/40	716/40	685 nm	Cy5.5-C-000
Cy7-B Cy7™, Alexa Fluor® 750	708/75	809/81	757 nm	Cy7-B-000
IRDye800-33LP-A (Longpass) IRDye® CW, DyLight 800	747/33	776/LP	776 nm	IRDye800-33LP-A-000
ICG-B Indocyanine Green	769/41	832/37	801 nm	ICG-B-000
DyLight405-C	379/34	440/40	562 nm	DyLight405-C-000
LuciferYellow-C	438/24	538/40	482 nm	LuciferYellow-C-000
SYBRGold-A	497/16	542/27	516nm	SYBRGold-A-000
YFP-2427B	497/16	542/27	516 nm	YFP-2427B-000

BrightLine® Single-Band Sets for FISH & Dense Multiplexing

Help Ease the Upstream Battle Against Cancer with BrightLine® FISH Fluorescence Filter Sets

In Situ Hybridization is an exciting imaging technique that enables clinical-scale genetic screening based on molecular diagnostics. When targets are tagged with fluorophores, the technique is FISH (fluorescence ISH), and multiplexing can be performed (mFISH). Semrock hard-coated BrightLine® filters are significantly brighter and offer superior contrast to older, soft-coated fluorescence filters, thus enabling faster, more accurate measurements. Precisely designed for FISH and mFISH configurations, our optical filter sets achieve brilliant fluorescence signals with dark background and low cross-talk. Switching to BrightLine® filters is the simplest and least expensive way to dramatically improve the quality of your FISH images.



PathVysion® assay control sample with CEP 17 and HER-2/neu probes (100X oil-immersion objective).

LEARN MORE ABOUT BRIGHTLINE® SINGLE-BAND SETS FOR FISH & DENSE MULTIPLEXING AT IDEX-HS.COM/FILTER-SETS

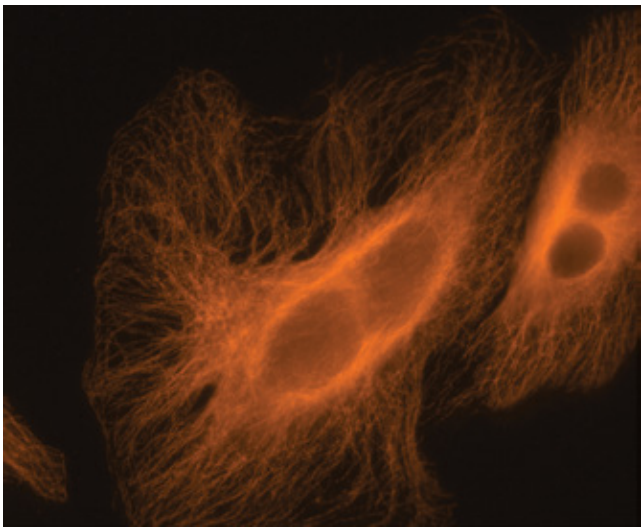
BrightLine® Single-Band Sets for FISH & Dense Multiplexing

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
SpAqua-C SpectrumAqua™, DEAC	438/24	483/32	458 nm	SpAqua-C-000
SpGr-B SpectrumGreen™, FITC, Alexa Fluor® 488	494/20	527/20	506 nm	SpGr-B-000
SpGold-B SpectrumGold™, Alexa Fluor® 532	534/20	572/28	552 nm	SpGold-B-000
SpOr-B SpectrumOrange™, Cy3™, Rhodamine, Alexa Fluor® 555	543/22	586/20	562 nm	SpOr-B-000
SpRed-B SpectrumRed™, Texas Red, Alexa Fluor® 568 & 594	586/20	628/32	605 nm	SpRed-B-000

Qdot® Single-Band Filter Sets

These single-band filter sets are specially optimized for brilliant, dense multi-color detection with Molecular Probes® (Thermo Fisher Scientific) quantum dot nanocrystals. The highly transmitting, deep-blue exciter achieves maximum quantum dot excitation efficiency while virtually eliminating any DAPI or Hoechst excitation, in addition to preventing unnecessary phototoxic irradiation of the sample. This filter is combined with a dichroic beamsplitter with extremely wide reflection and transmission bands for maximum flexibility, and narrow, highly transmitting emission filters matched to each of the most important Qdot wavelengths.





Cell image courtesy of Thermo Fisher Scientific.

LEARN MORE ABOUT QDOT® SINGLE-BAND FILTER SETS AT IDEX-HS.COM/FILTER-SETS

Qdot® Single-Band Filter Sets

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
QDLP-C (Longpass) Qdot® 525, 565, 585, 605, 625, 655, 705, & 800 Nanocrystals Versatile and high brightness longpass filter set for viewing multiple Qdots	435/40	500/LP	510 nm	QDLP-C-000
QD525-C Qdot® 525 Nanocrystals	435/40	525/15	510 nm	QD525-C-000
QD605-C Qdot® 605 Nanocrystals	435/40	605/15	510 nm	QD605-C-000
QD625-C Qdot® 625 Nanocrystals	435/40	625/15	510 nm	QD625-C-000
QD655-C Qdot® 655 Nanocrystals	435/40	655/15	510 nm	QD655-C-000

BrightLine® FRET Single-Band Sets

Our BrightLine® FRET Single-Band filter sets offer our simplest solution for dual-wavelength Fluorescence Resonance Energy Transfer (FRET) imaging. FRET measurements using wide-field microscopy are challenging – using the best possible filters can make a significant difference. These filter combinations provide excellent brightness and signal-to-noise ratio while minimizing the undesirable donor-acceptor crosstalk. Also see our multiband "Sedat" filter sets for high-performance FRET imaging.

LEARN MORE ABOUT BRIGHTLINE® FRET SINGLE-BAND FILTER SETS AT IDEX-HS.COM/FILTER-SETS

BrightLine® FRET Single-Band Sets

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
FRET-BFP/GFP-B Blue: BFP, DAPI, Hoechst, Alexa Fluor® 350 Green: GFP, (EGFP), FITC, Cy2™, Alexa Fluor® 488	387/11	Em1: 447/60 Em2: 520/35	409 nm	FRET-BFP/GFP-B-000 ⊗
FRET-CFP/YFP-C Cyan: CFP, CyPet, AmCyan Yellow: YFP, YPet, Venus	438/24	Em1: 483/32 Em2: 542/27	458 nm	FRET-CFP/YFP-C-000
FRET-GFP/RFP-D Green: GFP, (EGFP), FITC, Cy2™, Alexa Fluor® 488 Red: mRFP1, mCherry, mStrawberry, dTomato, DsRed, TRITC, Cy3™	472/30	Em1: 520/35 Em2: 641/75	495 nm	FRET-GFP/RFP-D-000
FRET-Cy3/Cy5-A Yellow: Cy3™, Alexa Fluor® 555 Red: Cy5™, Alexa Fluor® 647	531/40	Em1: 593/40 Em2: 676/29	562 nm	FRET-Cy3/Cy5-A-000

⊗ = *Obsolete product.*

BrightLine® Single-Band & Multiband LED Filter Sets

Semrock started with the spectra of the most popular LED-based light engines on the market to design this family of filter sets. These sets deliver significant fluorescence signal improvements when compared to using traditional filter sets designed for standard broadband light sources such as mercury or xenon arc lamps. These filter sets are optimized to simultaneously deliver the brightest signal and the highest signal-to-noise ratio (contrast) available for imaging a range of fluorophores with LED-based light engines.

- Spectrally aligned to popular LED-based light engines.
- 10s to 100s of percent more signal per channel compared to traditional light source filter sets when used with LED-based light engines.



LEARN MORE ABOUT BRIGHTLINE® SINGLE-BAND & MULTIBAND LED FILTER SETS AT IDEX-HS.COM/FILTER-SETS

BrightLine® Single-Band LED Filter Sets

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)	Filter Set Part Numbers
LED-DAPI-B DAPI, Alexa Fluor® 405, BFP, Pacific Blue™	378/52	447/60	409 nm	LED-DAPI-B-000
LED-CFP-A CFP (ECFP), Cerulean, SYTOX Blue, TagCFP	438/24	483/32	458 nm	LED-CFP-A-000
LED-mTFP-A mTFP1 (Teal), CFP (ECFP), ATTO 425, TagCFP	442/42	494/34	470 nm	LED-mTFP-A-000
LED-FITC-A FITC (Fluorescein), GFP (EGFP), Cy2™, 5-FAM	474/27	525/45	495 nm	LED-FITC-A-000
LED-YFP-A YFP (EYFP), Eosin, Fluo-3, Rhodamine 123	509/22	544/24	526 nm	LED-YFP-A-000
LED-Venus-A Venus, YFP (EYFP), Alexa Fluor® 405, 6-JOE	513/13	544/24	526 nm	LED-Venus-A-000
LED-TRITC-A TRITC, SpectrumOrange, dTomato, mTangerine	554/23	609/54	573 nm	LED-TRITC-A-000
LED-mCherry-A mCherry, TexasRed, mKate, mRFP1	578/21	641/75	596 nm	LED-mCherry-A-000
LED-Cy5-A Cy5™, Alexa Fluor® 647, APC	635/18	680/42	652 nm	LED-Cy5-A-000
LED-Cy7-A **Cy7™, Alexa Fluor® 750, ATTO 740, DiR**	735/28	809/81	757 nm	LED-Cy7-A-000

BrightLine® Single-Band & Multiband LED Filter Sets (Continued)

"Pinkel" Multiband LED Filter Sets

Single-band exciters, one triple- or quad-band emitter, and one multiedge beamsplitter

Filter Set / Primary Fluorophores	Single-band Excitation (CWL/BW)	Multiband Emission (CWL/BW)	Multiedge Dichroic (Edge)	Filter Set Part Numbers
LED-DA/FI/TX-3X-B (Triple-band Pinkel Set) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), CFP (ECFP), Cy2™ Red: Texas Red, mCherry, 5-ROX	Ex1: 378/52 Ex2: 474/27 Ex3: 575/25	432/36 523/46 702/196	409 nm 493 nm 596 nm	LED-DA/FI/TX-3X-B-000
LED-CFP/YFP/mCherry-3X-A (Triple-band Pinkel Set) Cyan: CFP (ECFP), Cerulean, SYTOX Blue, TagCFP Yellow: YFP (EYFP), Venus, Fluo-3, Rhodamine 123 Red: mCherry, TexasRed, mKate, mRFP1	Ex1: 438/24 Ex2: 509/22 Ex3: 578/21	475/22 543/22 702/197	459 nm 526 nm 596 nm	LED-CFP/YFP/mCherry-3X-A-000
LED-DA/FI/TR/Cy5-4X-B (Quad-band Pinkel Set) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647	Ex1: 378/52 Ex2: 474/27 Ex3: 554/23 Ex4: 635/18	432/36 515/30 595/31 730/139	409 nm 493 nm 573 nm 652 nm	LED-DA/FI/TR/Cy5-4X-B-000
LED-DA/FI/TR/Cy5/Cy7-5X-A (Penta-band Pinkel Set) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647 Far Red: Cy7™, DiR, Alexa Fluor® 750	Ex1: 378/52 Ex2: 474/27 Ex3: 554/23 Ex4: 635/18 Ex5: 735/28	432/36 515/30 595/31 681/40 809/81	409 nm 493 nm 573 nm 652 nm 759 nm	LED-DA/FI/TR/Cy5/Cy7-5X-A-000

Full Multiband LED Filter Sets

Multiband exciter, emitter and beamsplitter

Filter Set / Primary Fluorophores	Multiband Excitation (CWL/BW)	Multiband Emission (CWL/BW)	Multiedge Dichroic (Edge)	Filter Set Part Numbers
CELESTA-DA/FI/TR/Cy5/Cy7-A (Penta-band Full Multiband) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647 Deep Red: Cy7™, DiR, Alexa Fluor® 750	391/44 477/12 549/16 638.5/17 741/32	441/30 511/26 592.5/37 684/34 817/66	421 nm 491 nm 567 nm 659 nm 776 nm	CELESTA-DA/FI/TR/Cy5/ Cy7-A-000
CELESTA-CFP/YFP-A (Dual-band Full Multiband) Cyan: CFP (ECFP), Cerulean, SYTOX Blue, TagCFP Yellow: YFP (EYFP), Eosin, Fluo-3, Alexa Fluor® 514	449/20 520/20	484/22 561/30	471 nm 539 nm	CELESTA-CFP/YFP-A-000
LED-DA/FI/TX-A (Triple-band Full Multiband) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Cy2™ Red: Texas Red, mCherry, 5-ROX	378/52 474/27 575/25	432/36 523/46 702/196	409 nm 493 nm 596 nm	LED-DA/FI/TX-A-000
LED-CFP/YFP/mCherry-A (Triple-band Full Multiband) Cyan: CFP (ECFP), Cerulean, SYTOX Blue, TagCFP Yellow: YFP (EYFP), Eosin, Fluo-3, Rhodamine 123 Red: mCherry, TexasRed, mKate, mRFP1	438/24 509/22 578/21	475/22 543/22 702/197	459 nm 526 nm 596 nm	LED-CFP/YFP/mCherry-A-000
LED-DA/FI/TR/Cy5-B (Quad-band Full Multiband) Blue: DAPI, BFP, Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647	378/52 474/27 554/23 635/18	432/36 515/30 595/31 730/139	409 nm 493 nm 573 nm 652 nm	LED-DA/FI/TR/Cy5-B-000
LED-DA/FI/TR/Cy5/Cy7-A (Penta-band Full Multiband) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647 Deep Red: Cy7™, DiR, Alexa Fluor® 750	378/50 474/25 554/21 635/16 735/26	432/36 515/30 595/31 681/40 809/81	409 nm 493 nm 573 nm 652 nm 759 nm	LED-DA/FI/TR/Cy5/Cy7-A-000

BrightLine® Single-Band & Multiband LED Filter Sets (Continued)

"Sedat" Multiband LED Filter Sets

Single-band exciters and emitters, and one multiedge beamsplitter

Filter Set / Primary Fluorophores	Single-band Excitation (CWL/BW)	Single-band Emission (CWL/BW)	Multiedge Dichroic (Edge)	Filter Set Part Numbers
LED-DA/FI/TX-3X3M-B (Triple-band Sedat Set) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Cy2™ Red: Texas Red, mCherry, 5-ROX	Ex1: 378/52 Ex2: 474/27 Ex3: 575/25	Em1: 432/36 Em2: 525/40 Em3: 641/75	409 nm 493 nm 596 nm	LED-DA/FI/TX-3X3M-B-000
LED-CFP/YFP/mCherry-3X3M-A (Triple-band Sedat Set) Cyan: CFP (ECFP), Cerulean, SYTOX Blue, TagCFP Yellow: YFP (EYFP), Eosin, Fluo-3, Rhodamine 123 Red: mCherry, TexasRed, mKate, mRFP1	Ex1: 438/24 Ex2: 509/22 Ex3: 578/21	Em1: 482/25 Em2: 544/24 Em3: 641/75	459 nm 526 nm 596 nm	LED-CFP/YFP/mCherry-3X3M-A-000
LED-DA/FI/TR/Cy5-4X4M-B (Quad-band Sedat Set) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647	Ex1: 378/52 Ex2: 474/27 Ex3: 554/23 Ex4: 635/18	Em1: 432/36 Em2: 515/30 Em3: 595/31 Em4: 698/70	409 nm 493 nm 573 nm 652 nm	LED-DA/FI/TR/Cy5-4X4M-B-000
LED-DA/FI/TR/Cy5/Cy7-5X5M-A (Penta-band Sedat Set) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647 Far Red: Cy7™, DiR, Alexa Fluor® 750	Ex1: 378/52 Ex2: 474/27 Ex3: 554/23 Ex4: 635/18 Ex5: 735/28	Em1: 432/36 Em2: 515/30 Em3: 595/31 Em4: 680/42 Em5: 809/81	409 nm 493 nm 573 nm 652 nm 759 nm	LED-DA/FI/TR/Cy5/Cy7-5X5M-A-000

BrightLine® Multiband Fluorescence Sets

BrightLine® Multiband Fluorescence Sets

Full Multiband Filter Sets - multiband exciter, emitter and beamsplitter

Filter Set / Primary Fluorophores	Multiband Excitation (CWL/BW)	Multiband Emission (CWL/BW)	Multiedge Dichroic (Edge)	Filter Set Part Numbers
BRFLD-A Bright Field Imaging Set		409/LP	409 nm	BRFLD-A-000-ZERO
DA/FI-A (Dual-band Full Multiband) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488	387/11 480/29	433/38 530/40	403 nm 502 nm	DA/FI-A-000
GFP/DsRed-A (Dual-band Full Multiband) Green: GFP, rsGFP, FITC, Alexa Fluor® 488 Red: DsRed, TRITC, Cy3™, Texas Red®, Alexa Fluor® 568 & 594	468/34 553/24	512/23 630/91	493 nm 574 nm	GFP/DsRed-A-000
FITC/TxRed-A (Dual-band Full Multiband) Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Red: Texas Red®, mCherry, Alexa Fluor® 568 & 594	479/38 585/27	524/29 628/33	505 nm 606 nm	FITC/TxRed-A-000
Cy3/Cy5-A (Dual-band Full Multiband) Yellow: Cy3™, DsRed, Alexa Fluor® 555 Red: Cy5™, SpectrumRed™, Alexa Fluor® 647 & 660	534/36 635/31	577/24 690/50	560 nm 659 nm	Cy3/Cy5-A-000 ⊗
DA/FI/TR-A (Triple-band Full Multiband) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Orange: TRITC, DsRed, Cy3™, Alexa Fluor® 555	387/11 478/24 555/19	433/38 517/25 613/63	403 nm 497 nm 574 nm	DA/FI/TR-A-000
DA/FI/TX-B (Triple-band Full Multiband) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Red: Texas Red®, MitoTracker Red, Alexa Fluor® 568 & 594	407/14 494/20 576/20	457/22 530/20 628/28	436 nm 514 nm 604 nm	DA/FI/TX-B-000
DA/FI/TR/Cy5-A (Quad-band Full Multiband) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Orange: TRITC, DsRed, Cy3™, Alexa Fluor® 555 Red: Texas Red®, MitoTracker Red, Alexa Fluor® 568 & 594	387/11 485/20 559/25 649/13	440/40 521/21 607/34 700/45	410 nm 504 nm 582 nm 669 nm	DA/FI/TR/Cy5-A-000

⊗ = *Obsolete product.*

BrightLine® Multiband Fluorescence Sets (Continued)

"Pinkel" Multiband Filter Sets

Single-band exciters, one dual-, triple-, quad-, or penta-band emitter and one multiedge beamsplitter

Filter Set / Primary Fluorophores	Single-band Excitation (CWL/BW)	Multiband Emission (CWL/BW)	Multiedge Dichroic (Edge)	Filter Set Part Numbers
DA/FI-2X-B (Dual-band Pinkel Set) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488	Ex1: 387/11 Ex2: 485/20	433/38 530/40	403 nm 502 nm	DA/FI-2X-B-000
GFP/DsRed-2X-A (Dual-band Pinkel Set) Green: GFP, rsGFP, FITC, Alexa Fluor® 488 Red: DsRed, TRITC, Cy3™, Texas Red®, Alexa Fluor® 568 & 594	Ex1: 470/22 Ex2: 556/20	512/23 630/91	493 nm 574 nm	GFP/DsRed-2X-A-000
FITC/TxRed-2X-B (Dual-band Pinkel Set) Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Red: Texas Red®, mCherry, Alexa Fluor® 568 & 594	Ex1: 485/20 Ex2: 586/20	524/29 628/33	505 nm 606 nm	FITC/TxRed-2X-B-000
Cy3/Cy5-2X-B (Dual-band Pinkel Set) Yellow: Cy3™, DsRed, Alexa Fluor® 555 Red: Cy5™, SpectrumRed™, Alexa Fluor® 647 & 660	Ex1: 534/30 Ex2: 628/40	577/24 690/50	560 nm 659 nm	Cy3/Cy5-2X-B-000
DA/FI/TR-3X-A (Triple-band Pinkel Set) Blue: DAPI Green: FITC (Fluorescein), GFP (EGFP) Orange: TRITC (Tetramethylrhodamine)	Ex1: 387/11 Ex2: 480/17 Ex3: 556/20	433/36 517/23 613/61	403 nm 497 nm 574 nm	DA/FI/TR-3X-A-000
DA/FI/TX-3X-C (Triple-band Pinkel Set) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, BoDipy, Alexa Fluor® 488 Red: Texas Red®, MitoTracker Red, Alexa Fluor® 568 & 594	Ex1: 387/11 Ex2: 494/20 Ex3: 575/25	457/22 530/20 628/28	436 nm 514 nm 604 nm	DA/FI/TX-3X-C-000
DA/FI/TR/Cy5-4X-B (Quad-band Pinkel Set) Blue: DAPI, Hoechst, AMCA, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, AlexaFluor® 488 Orange: TRITC, Cy3™, Texas Red®, Alexa Fluor® 568 & 594 Red: Cy5™, APC, TOTO-3, TO-PRO-3, Alexa Fluor® 647 & 660	Ex1: 387/11 Ex2: 485/20 Ex3: 560/25 Ex4: 650/13	440/40 521/21 607/34 700/45	410 nm 504 nm 582 nm 669 nm	DA/FI/TR/Cy5-4X-B-000
DA/FI/TR/Cy5/Cy7-5X-A (Penta-band Pinkel Set) Blue: DAPI, Hoechst, AMCA, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, AlexaFluor® 488 Orange: TRITC, Cy3™, Texas Red®, Alexa Fluor® 568 & 594 Red: Cy5™, APC, TOTO-3, TO-PRO-3, Alexa Fluor® 647 & 660 Far Red: Cy7™	Ex1: 387/11 Ex2: 485/20 Ex3: 560/25 Ex4: 650/13 Ex5: 740/13	440/40 521/21 607/34 694/35 809/81	408 nm 504 nm 581 nm 667 nm 762 nm	DA/FI/TR/Cy5/Cy7-5X-A-000
LF405/488/532/635-4X-A (Quad-band Pinkel Set) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP), mRFP1 Red: Cy5™	Ex1: 390/40 Ex2: 482/18 Ex3: 532/3 Ex4: 640/14	445.8/32.5 510/16 581.5/63 703/80	422.3 nm 497.8 nm 541.6 nm 655.9 nm	LF405/488/532/635-4X-A-000
LF405/488/561/635-4X-A (Quad-band Pinkel Set) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP), mRFP1 Red: Cy5™	Ex1: 390/40 Ex2: 482/18 Ex3: 563/9 Ex4: 640/14	446/32 523/42 600/35 677/27	405 nm 488 nm 561 nm 635 nm	LF405/488/561/635-4X-A-000
LF488/561-2X-B (Dual-band Pinkel Set) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP), mRFP1	Ex1: 482/18 Ex2: 563/9	523/40 610/52	488 nm 561 nm	LF488/561-2X-B-000

BrightLine® Multiband Fluorescence Sets (Continued)

"Sedat" Multiband Filter Sets

Single-band exciters and emitters, and one multiedge beamsplitter

Filter Set / Primary Fluorophores	Single-band Excitation (CWL/BW)	Single-band Emission (CWL/BW)	Multiedge Dichroic (Edge)	Filter Set Part Numbers
DA/FI-2X2M-B (Dual-band Sedat Set) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488	Ex1: 387/11 Ex2: 485/20	Em1: 435/40 Em2: 531/22	403 nm 502 nm	DA/FI-2X2M-B-000
GFP/DsRed-2X2M-C (Dual-band Sedat Set) Green: GFP, rsGFP, FITC, Alexa Fluor® 488 Red: DsRed, TRITC, Cy3™, Texas Red®, Alexa Fluor® 568 & 594	Ex1: 470/22 Ex2: 556/20	Em1: 514/30 Em2: 617/73	493 nm 574 nm	GFP/DsRed-2X2M-C-000
FITC/TxRed-2X2M-B (Dual-band Sedat Set) Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Red: Texas Red®, mCherry, Alexa Fluor® 568 & 594	Ex1: 485/20 Ex2: 586/20	Em1: 536/40 Em2: 628/32	505 nm 606 nm	FITC/TxRed-2X2M-B-000
Cy3/Cy5-2X2M-B (Dual-band Sedat Set) Yellow: Cy3™, DsRed, Alexa Fluor® 555 Red: Cy5™, SpectrumRed™, Alexa Fluor® 647 & 660	Ex1: 534/30 Ex2: 628/40	Em1: 585/40 Em2: 692/40	560 nm 659 nm	Cy3/Cy5-2X2M-B-000
DA/FI/TR-3X3M-C (Triple-band Sedat Set) Blue: DAPI Green: FITC (Fluorescein), GFP (EGFP) Orange: TRITC (Tetramethylrhodamine)	Ex1: 387/11 Ex2: 480/17 Ex3: 556/20	Em1: 435/40 Em2: 520/28 Em3: 617/73	403 nm 497 nm 574 nm	DA/FI/TR-3X3M-C-000
DA/FI/TX-3X3M-C (Triple-band Sedat Set) Blue: DAPI, Hoechst, AMCA, BFP, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Red: Texas Red®, MitoTracker Red, Alexa Fluor® 568 & 594	Ex1: 387/11 Ex2: 494/20 Ex3: 575/25	Em1: 447/60 Em2: 531/22 Em3: 624/40	436 nm 514 nm 604 nm	DA/FI/TX-3X3M-C-000
DA/FI/TR/Cy5-4X4M-C (Quad-band Sedat Set) Blue: DAPI, Hoechst, AMCA, Alexa Fluor® 350 Green: FITC, GFP, rsGFP, Bodipy, Alexa Fluor® 488 Orange: TRITC, Cy3™, Texas Red®, MitoTracker Red, Alexa Fluor® 568 & 594 Red: Cy5™, APC, TOTO-3, TO-PRO-3, Alexa Fluor® 647 & 660	Ex1: 387/11 Ex2: 485/20 Ex3: 560/25 Ex4: 650/13	Em1: 440/40 Em2: 525/30 Em3: 607/36 Em4: 684/24	410 nm 504 nm 582 nm 669 nm	DA/FI/TR/Cy5-4X4M-C-000
DA/FI/TR/Cy5/Cy7-5X5M-B (Penta-band Sedat Set) Blue: DAPI, Hoechst, AMCA, Alexa Fluor® 350 Green: FITC, GFP, Bodipy, AlexaFluor® 488 Orange: TRITC, Cy3™, Texas Red®, Alexa Fluor® 568 Red: Cy5™, APC, Alexa Fluor® 647 & 660 Far Red: Cy7™	Ex1: 387/11 Ex2: 485/20 Ex3: 560/25 Ex4: 650/13 Ex5: 740/13	Em1: 440/40 Em2: 525/30 Em3: 607/36 Em4: 684/24 Em5: 809/81	408 nm 504 nm 581 nm 667 nm 762 nm	DA/FI/TR/Cy5/Cy7-5X5M-B-000

BrightLine® Laser Fluorescence Single-Band, Multi-Band, & Longpass Filter Sets

Designed for the unique demands of TIRF laser excitation, the dichroic beamsplitter reflection range extends down to 350 nm, allowing the combined use of photoactivation (UV sources) with the normal excitation laser line. Users of uncaging and super-resolution techniques will appreciate this added functionality. Maximize signal-to-noise ratio (contrast) and minimize artifacts in TIRF, confocal, PALM, STORM, SIM, and other super-resolution techniques.

LEARN MORE ABOUT BRIGHTLINE® LASER FLUORESCENCE SINGLE-BAND & LONGPASS FILTER SETS AT IDEX-HS.COM/FILTER-SETS



Fluorescence Filter Sets Optimized for Lasers

Laser Line	Popular Fluorophores	Single-band Laser Sets		Multiband Laser Sets		
		Bandpass	Longpass	"Full Multiband"*	"Pinkel"*	"Sedat"*
375 ± 3 nm 405 ± 5 nm	DAPI, BFP	LF405-C ⊗	LF405/LP-C ⊗	LF405/488/594-A ⊗ LF405/488/532/635 ✓ LF405/488/561/635 ✓	LF405/488/594-3X-B ⊗ LF405/488/532/635-4X ✓ LF405/488/561/635-4X ✓	LF405/488/594-3XM-B ⊗ LF405/488/561/635-4X4M ❇
~ 440 nm 441.6 nm	CFP	LF442 ✓				
473 ± 2 nm 488 +3/−2 nm 491 nm	FITC, GFP	LF488 ✓	LF488/LP ✓	LF488/561 ✓ LF405/488/594-A ⊗ LF405/488/532/635 ✓ LF405/488/561/635 ✓	LF488/561-2X ✓ LF405/488/594-3X-B ⊗ LF405/488/532/635-4X ✓ LF405/488/561/635-4X ✓	LF488/561-2X2M ❇ LF405/488/594-3X3M-B ⊗ LF405/488/561/635-4X4M ❇
514.5 nm 515 nm	YFP	LF514-C ✓				
532 nm	TRITC			LF405/488/532/635 ✓	LF405/488/532/635-4X ✓	
559 ± 5 nm 561 ± 5 nm 568.2 nm	RFPs (mCherry, HcRed, J-Red), Texas Red®	LF561-C ✓	LF561/LP-D ✓	LF488/561 ✓ LF405/488/561/635 ✓	LF488/561-2X ✓ LF405/488/561/635-4X ✓	LF488/561-2X2M ❇ LF405/488/561/635-4X4M ❇
593.5 nm 594 ± 0.3 nm 594.1 nm	mCherry, mKate2, Alexa Fluor 594®, Texas Red®	LF594-D ⊗	LF594/LP-D ⊗	LF405/488/594-A ⊗	LF405/488/594-3X-B ⊗	LF405/488/594-3X3M-B ⊗
632.8 nm 635 +7/−0 nm 647.1 nm	Cy5®, APC, Alexa 633 & 647	LF635-C ✓	LF635/LP-C ✓	LF405/488/532/635 ✓ LF405/488/561/635 ✓	LF488/543/635-3X-A ⊗ LF405/488/532/635-4X ✓ LF405/488/561/635-4X ✓	LF405/488/561/635-4X4M ❇

*Refer to page HP-60 for details on multiband filter set configurations.
✓ = *Super Resolution.*
❇ = *Super Resolution and Laser Flat.*
⊗ = *Obsolete product.*

BrightLine® Laser Fluorescence Single-Band, Multi-Band, & Longpass Filter Sets (Continued)

BrightLine® Laser Fluorescence Single-Band and Longpass Filter Sets

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Laser)	Filter Set Part Numbers	
LF405/LP-C (Longpass) 375 & 405 nm	390/40	405/LP	405 nm	LF405/LP-C-000	⊗
LF405-C 375 & 405 nm	390/40	452/45	405 nm	LF405-C-000	⊗
LF442-C ~ 440 & 441.6 nm	448/20	482/25	442 nm	LF442-C-000	
LF488/LP-D (Longpass) 473 & 488 nm	482/18	488/LP	488 nm	LF488/LP-D-000	
LF488-D 473 & 488 nm	482/18	525/45	488 nm	LF488-D-000	
LF514-C 514.5 & 515.0 nm	510/10	542/27	514 nm	LF514-C-000	
LF561/LP-D (Longpass) 559, 561.4, & 568.2 nm	561/14	561/LP	561 nm	LF561/LP-D-000	
LF561-C 559, 561.4, & 568.2 nm	561/14	609/54	561 nm	LF561-C-000	
LF594/LP-D (Longpass) 593.5, 594, 594.1 nm	591/6	594/LP	594 nm	LF594/LP-D-000	⊗
LF594-D 593.5, 594, 594.1 nm	591/6	647/57	594 nm	LF594-D-000	⊗
LF635/LP-C (Longpass) 632.8, 635, & 647.1 nm	640/14	635/LP	635 nm	LF635/LP-C-000	
LF635-C 632.8, 635, & 647.1 nm	640/14	676/29	635 nm	LF635-C-000	
LF405/LP-B (Longpass) 405 nm	390/40	405/LP	414 nm	LF405/LP-B-000	
LF405-B 405 nm	390/40	452/45	414 nm	LF405-B-000	
LF442-B 442 nm	448/20	482/25	462 nm	LF442-B-000	
LF488/LP-C (Longpass) 488 nm	482/18		495.5 nm	LF488/LP-C-000	⊗
LF488-C 488 nm	482/18	525/45	496 nm	LF488-C-000	
LF514-B 514 nm	510/10	542/27	520 nm	LF514-B-000	⊗
LF561/LP-C (Longpass) 561 & 568 nm	561/14	561/LP	573 nm	LF561/LP-C-000	
LF561-B 561 & 568 nm	561/14	609/54	573 nm	LF561-B-000	
LF594/LP-C (Longpass) 561 nm	591/6		599.5 nm	LF594/LP-C-000	⊗
LF594-C 594 nm	591/6	647/57	599 nm	LF594-C-000	
LF635/LP-B (Longpass) 635 nm	640/14	635/LP	659 nm	LF635/LP-B-000	
LF635-B 635 nm	640/14	676/29	659 nm	LF635-B-000	

⊗ = *Obsolete product.*

BrightLine® Laser Fluorescence Single-Band, Multi-Band, & Longpass Filter Sets (Continued)

BrightLine® Laser Fluorescence Multiband Sets

Full Multiband Filter Sets - multiband exciter, emitter and beamsplitter

Set / Laser Lines Primary Fluorophores	Multiband Excitation (CWL/BW)	Multiband Emission (CWL/BW)	Multiedge Dichroic (Laser)	Filter Set Part Numbers
LF488/561-B (Dual-band Full Multiband) Green: FITC (Fluorescein), GFP (EGFP) Red: mCherry (RFP)	482/18 563/9	523/40 610/52	500 nm 576 nm	LF488/561-B-000
LF405/488/594-A (Triple-band Full Multiband) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Red: mCherry, Texas Red	390/40 482/18 587/15	446/32 532/58 646/68	405 nm 488 nm 594 nm	LF405/488/594-A-000 ⊗
LF405/488/532/635-B (Quad-band Full Multiband) Blue: DAPI Green: FITC (Fluorescein), GFP (EGFP) Orange: TRITC Red: Cy5™	390/40 482/18 532/3 640/14	446/32 510/16 581/63 703/80	405 nm 488 nm 532 nm 635 nm	LF405/488/532/635-B-000
LF405/488/561/635-B (Quad-band Full Multiband) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP) Red: Cy5™	390/40 482/18 563/9 640/14	446/32 523/42 600/35 677/27	405 nm 488 nm 561 nm 635 nm	LF405/488/561/635-B-000
LF405/488/532/635-A (Quad-band Full Multiband) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Orange: TRITC, mCherry (RFP), mRFP1 Red: Cy5™	390/40 482/18 532/3 640/14	446/33 510/16 582/63 703/80	422 nm 498 nm 542 nm 656 nm	LF405/488/532/635-A-000
LF405/488/561/635-A (Quad-band Full Multiband) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP), mRFP1 Red: Cy5™	390/40 482/18 564/9 640/14	446/333 524/42 600/36 677/28	426 nm 498 nm 575 nm 655 nm	LF405/488/561/635-A-000
LF488/561-A (Dual-band Full Multiband) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP), mRFP1	482/18 563/9	523/40 610/52	500 nm 576 nm	LF488/561-A-000

⊗ = *Obsolete product.*

BrightLine® Laser Fluorescence Single-Band, Multi-Band, & Longpass Filter Sets (Continued)

BrightLine® Laser Fluorescence Multiband Sets

"Pinkel" Multiband Laser Filter Sets - single-band exciters, multiband emitter and beamsplitter

Set / Laser Lines Primary Fluorophores	Single-band Excitation (CWL/BW)	Multiband Emission (CWL/BW)	Multiedge Dichroic (Laser)	Filter Set Part Numbers
LF488/561-2X-C (Dual-band Pinkel Set) Green: FITC (Fluorescein), GFP (EGFP) Red: mCherry (RFP)	Ex1: 482/18 Ex2: 563/9	523/40 610/52	488 nm 561 nm	LF488/561-2X-C-000
LF405/488/594-3X-B (Triple-band Pinkel Set) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Red: mCherry, Texas Red	Ex1: 390/40 Ex2: 482/18 Ex3: 591/6	446/32 532/58 646/68	405 nm 488 nm 594 nm	LF405/488/594-3X-B-000 ⊗
LF405/488/532/635-4X-B (Quad-band Pinkel Set) Blue: DAPI Green: FITC (Fluorescein), GFP (EGFP) Orange: TRITC Red: Cy5™	Ex1: 390/40 Ex2: 482/18 Ex3: 532/3 Ex4: 640/14	446/32 510/16 581/63 703/80	405 nm 488 nm 532 nm 635 nm	LF405/488/532/635-4X-B-000
LF405/488/561/635-4X-B (Quad-band Pinkel Set) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry, mRFP1 Red: Cy5™	Ex1: 390/40 Ex2: 482/18 Ex3: 563/9 Ex4: 640/14	446/32 523/42 600/35 677/27	405 nm 488 nm 561 nm 635 nm	LF405/488/561/635-4X-B-000

"Sedat" Multiband Laser Filter Sets - single-band exciters and emitters, multiedge beamsplitter

Set / Laser Lines Primary Fluorophores	Single-band Excitation (CWL/BW)	Multiband Emission (CWL/BW)	Multiedge Dichroic (Laser)	Filter Set Part Numbers
LF488/561-2X2M-C (Dual-band Sedat Set) Green: FITC (Fluorescein), GFP (EGFP) Red: mCherry (RFP)	Ex1: 482/18 Ex2: 563/9	Em1: 525/45 Em2: 609/54	488 nm 561 nm	LF488/561-2X2M-C-000
LF405/488/594-3X3M-B (Triple-band Sedat Set) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Red: mCherry, Texas Red	Ex1: 390/40 Ex2: 482/18 Ex3: 591/6	Em1: 445/20 Em2: 525/45 Em3: 647/57	405 nm 488 nm 594 nm	LF405/488/594-3X3M-B-000 ⊗
LF405/488/561/635-4X4M-B (Quad-band Sedat Set) Blue: DAPI Green: FITC (Fluorescein), GFP (EGFP) Orange: Cy3™, TRITC, mOrange Red: Cy5™	Ex1: 390/40 Ex2: 482/18 Ex3: 563/9 Ex4: 640/14	Em1: 445/20 Em2: 525/30 Em3: 605/15 Em4: 676/29	405 nm 488 nm 561 nm 635 nm	LF405/488/561/635-4X4M-B-000
LF405/488/561/635-4X4M-A (Quad-band Sedat Set) Blue: DAPI, BFP (EBFP) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP), mRFP1 Red: Cy5™	Ex1: 390/40 Ex2: 482/18 Ex3: 563.5/9 Ex4: 640/14	Em1: 445/20 Em2: 525/30 Em3: 605/15 Em4: 676/29	426.3 nm 498.3 nm 575.4 nm 655.3 nm	LF405/488/561/635-4X4M-A-000
LF488/561-2X2M-B (Dual-band Sedat Set) Green: FITC (Fluorescein), GFP (EGFP) Orange: mCherry (RFP), mRFP1	Ex1: 482/18 Ex2: 563/9	Em1: 525/45 Em2: 609/54	500 nm 575.5 nm	LF488/561-2X2M-B-000

⊗ = *Obsolete product.*

BrightLine® Multiphoton Fluorescence Filters

These BrightLine® multiphoton ultra-high-performance fluorescence filters serve a full range of applications, accommodating the wide range of fluorescent dyes that are the essential tools of modern researchers. The transmission bands of the emitters are so wide that they appear clear at normal incidence, demonstrating high transmission for maximum signal while maintaining strong OD blocking to ensure low background noise. The long-wave-pass dichroic reflection bands are so wide that they look like mirrors when viewed at 45°. These filters virtually eliminate excitation laser noise at the detector. To reduce undesired fluorescence noise outside a desired band, simply add a BrightLine® bandpass filter.



LEARN MORE ABOUT BRIGHTLINE® MULTIPHOTON FLUORESCENCE FILTERS AT IDEX-HS.COM/SINGLE-FILTERS

Laser Blocking Emission Filters

Average Transmission	Blocking Range	Glass Thickness	Filter Part Number
> 93% 485 - 555 nm	OD (average) > 5: 300 - 474.5 nm	2.0 mm	FF01-520/70-25
> 90% 350 - 650 nm	OD (average) > 6: 567.5 - 1200 nm	2.0 mm	FF01-680/SP-25
> 90% 350 - 690 nm	OD (average) > 8: 680 - 1040 nm	2.0 mm	FF01-720/SP-25
> 90% 380 - 720 nm	OD (average) > 6: 1040 - 1200 nm	2.0 mm	FF01-750/SP-25
> 90% 380 - 740 nm	OD (average) > 6: 720 - 1100 nm	2.0 mm	FF01-770/SP-25
> 90% 380 - 760 nm	OD (average) > 6: 750 - 1100 nm	2.0 mm	FF01-790/SP-25
> 90% 380 - 860 nm	OD (average) > 6: 770 - 1400 nm	2.0 mm	FF01-890/SP-25
> 90% 400 - 905 nm	OD (average) > 6: 790 - 1400 nm	2.0 mm	FF01-940/SP-25

BrightLine® Multiphoton Fluorescence Filters (Continued)

Long Wave Pass Dichroic Beamsplitters

Average Transmission	Average Reflection Bandwidth	Glass Thickness	Filter Part Number
> 93% 680 - 1600 nm	> 98% 350 - 650 nm	1.05 mm	FF665-Di02-25x36
> 93% 720 - 1600 nm	> 98% 350 - 690 nm	1.05 mm	FF705-Di01-25x36
> 93% 750 - 1600 nm	> 98% 350 - 720 nm	1.05 mm	FF735-Di02-25x36
> 93% 790 - 1600 nm	> 98% 350 - 760 nm	1.05 mm	FF775-Di01-25x36
> 93% 892.5 - 1600 nm	> 98% 350 - 857.5 nm	1.05 mm	FF875-Di01-25x36
> 93% 943.5 - 1600 nm	> 98% 350 - 906.5 nm	1.05 mm	FF925-Di01-25x36

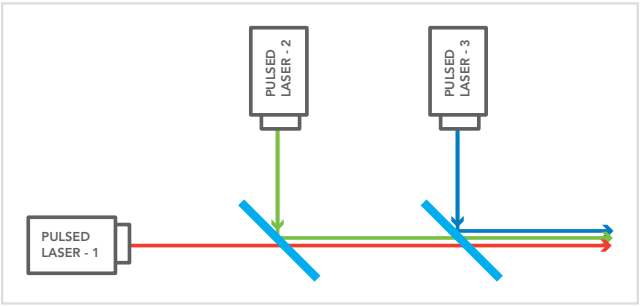
Short Wave Pass Dichroic Beamsplitters

Average Transmission	Average Reflection Bandwidth	Glass Thickness	Filter Part Number
> 90% 360 - 650 nm	> 90% (avg-polarization) 680 - 1080 nm > 98% (s-polarization) 680 - 1080 nm > 90% (p-polarization) 700 - 1010 nm	1.05 mm	FF670-SDi01-25x36
> 90% 360 - 675 nm	> 90% (avg-polarization) 725 - 1300 nm > 95% (s-polarization) 720 - 1300 nm > 85% (p-polarization) 730 - 1300 nm	1.05 mm	FF700-SDi01-25x36
> 85% (avg. polarization) 370 - 690 nm > 90% (s- & p-polarizations) 400 - 410 nm	> 95% (avg. polarization) 750 - 875 nm > 90% (s- and p-polarizations) > 99% (s- & p-polarizations) 800 - 820 nm	1.05 mm	FF720-SDi01-25x36

BrightLine® Multiphoton Beam Combining Filters

Our Multiphoton LaserMUX™ beam combiners enable deeper tissue imaging and improved contrast in multi-color and multi-modal fluorescence microscopy. The filters set new performance standards by simultaneously achieving high transmission, high reflection, and low GDD over both reflection and transmission, while maintaining minimal wavefront distortion. Ideal for combining two femtosecond pulsed laser beams, they are perfect for optogenetics and other life science applications.

LEARN MORE ABOUT BRIGHTLINE® MULTIPHOTON BEAM COMBINING FILTERS AT IDEX-HS.COM/SINGLE-FILTERS



BrightLine® Multiphoton LaserMUX™ Beam Combiners can be used to combine multiple pulsed laser beams.

Multiphoton Beam Combining Filters

Average Transmission	Average Reflection Bandwidth	Glass Thickness	Filter Part Number
> 93% (avg-polarization) 890 - 2100 nm > 90% (s-polarization) 890 - 2100 nm > 95% (p-polarization) 845 - 2100 nm	> 95% (avg-polarization) 670 - 815 nm > 98% (s-polarization) 670 - 849 nm > 90% (p-polarization) 670 - 815 nm	1.05 mm	FF850-Di02-t1-25x36
> 90% (avg-polarization) 420 - 850 nm	> 94% (avg-polarization) 910 - 1400 nm > 98.5% (s-polarization) 910 - 1400 nm > 90% (p-polarization) 910 - 1400 nm	1.05 mm	FF880-SDi01-t1-25x36
> 90% (avg-polarization) 420 - 850 nm	> 94% (avg-polarization) 910 - 1400 nm > 98.5% (s-polarization) 910 - 1400 nm > 90% (p-polarization) 910 - 1400 nm	3.0 mm	FF880-SDi01-t3-25x36
> 93% (avg-polarization) 1022 - 2100 nm > 90% (s-polarization) 1022 - 2100 nm > 95% (p-polarization) 992 - 2100 nm	> 95% (avg-polarization) 770 - 938 nm > 98% (s-polarization) 770 - 968 nm > 90% (p-polarization) 770 - 930 nm	1.05 mm	FF980-Di01-t1-25x36

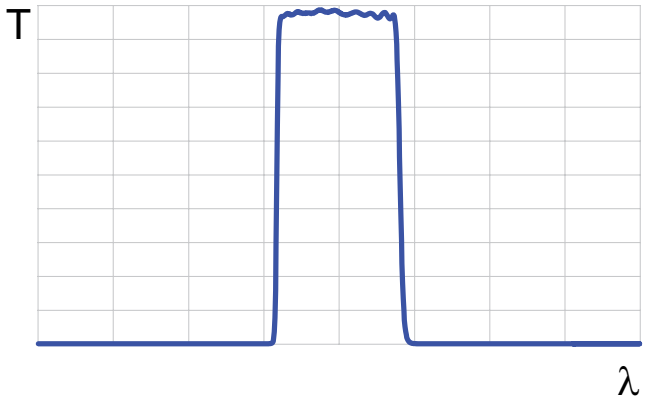
Multiedge Confocal / Multiphoton Super-resolution / TIRF Dichroic Beamsplitters

Average Transmission	Absolute Reflection Bandwidth	1 mm Thickness Filter Part Number	3 mm Thickness Filter Part Number
> 93% 429.5 - 462.0 nm > 93% 502.5 - 544.5 nm > 93% 582 - 617.5 nm > 93% 663 - 800 nm	R (avg-polarization) > 94% 370 - 410 nm R (p-polarization) > 90% 370 - 410 nm R (s-polarization) > 98% 370 - 410 nm R (avg-polarization) > 94% 473 - 491 nm R (p-polarization) > 90% 473- 491 nm R (s-polarization) > 98% 473- 491 nm R (avg-polarization) > 94% 559 - 568.2 nm R (p-polarization) > 90% 559 - 568.2 nm R (s-polarization) > 98% 559 - 568.2 nm R (avg-polarization) > 94% 632.8 - 647.1 nm R (p-polarization) > 90% 632.8 - 647.1 nm R (s-polarization) > 98% 632.8 - 647.1 nm	Di01-R405/488/561/635-t1-25x36	Di01-R405/488/561/635-t3-25x36
> 92% 425 - 470 nm > 92% 508 - 540 nm > 92% 5823- 615 nm > 92% 671- 725 nm	R (avg-polarization) > 94% 400 - 410 nm R (p-polarization) > 90% 400 - 410 nm R (s-polarization) > 98% 400 - 410 nm R (avg-polarization) > 94% 483 - 493 nm R (p-polarization) > 90% 483- 493 nm R (s-polarization) > 98% 483- 493 nm R (avg-polarization) > 94% 559 - 563 nm R (p-polarization) > 90% 559 - 563 nm R (s-polarization) > 98% 559 - 563 nm R (avg-polarization) > 94% 635 - 647 nm R (p-polarization) > 90% 635 - 647 nm R (s-polarization) > 98% 635 - 647 nm R average (avg-polarization) > 94% 800 - 1050 nm R average (p-polarization) > 90% 800 - 1050 nm R average (s-polarization) > 98% 800 - 1050 nm	Di01-R405/488/561/635/800-t1-25x36	Di01-R405/488/561/635/800-t3-25x36

BrightLine® Single-Band Bandpass Filters

IDEX Health & Science stocks an exceptional range of individual Semrock fluorescence bandpass filters optimized for use in a variety of fluorescence instruments, such as fluorescence microscopy, flow cytometry, and analytical instrumentation. Balancing precision and value, these filters exclusively use our patented single-substrate construction for the highest performance and reliability. All filters are housed in the industry standard 25 mm round black-anodized aluminum ring with the indicated thickness and a clear aperture of at least 21 mm.

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BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
405 nm	See Laser Diode Clean-Up filters			LD01-405/10-25
405 nm	> 87% over 10 nm	25 mm x 5.0 mm	3.5 mm	FF01-405/10-25
405 nm	> 90% over 150 nm	25 mm x 3.5 mm	2.0 mm	FF01-405/150-25
406 nm	> 85% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-406/15-25
414 nm	> 90% over 46 nm	25 mm x 3.5 mm	2.0 mm	FF01-414/46-25
415 nm	> 90% over 10 nm	25 mm x 3.5 mm	2.0 mm	FF01-415/10-25
417 nm	> 90% over 60 nm	25 mm x 5.0 mm	2.0 mm	FF01-417/60-25
420 nm	> 90% over 5 nm	25 mm x 5.0 mm	3.5 mm	FF01-420/5-25
420 nm	> 90% over 10 nm	25 mm x 3.5 mm	2.0 mm	FF01-420/10-25
425 nm	> 90% over 26 nm	25 mm x 5.0 mm	3.5 mm	FF01-425/26-25
427 nm	> 93% over 10 nm	25 mm x 5.0 mm	2.0 mm	FF01-427/10-25
432 nm	> 93% over 32 nm	25 mm x 3.5 mm	2.0 mm	FF01-432/36-25
433 nm	> 93% over 24 nm	25 mm x 3.5 mm	2.0 mm	FF01-433/24-25
434 nm	> 90% over 17 nm	25 mm x 5.0 mm	2.0 mm	FF01-434/17-25
435 nm	> 90% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF02-435/40-25
438 nm	> 93% over 24 nm	25 mm x 5.0 mm	2.0 mm	FF02-438/24-25
439 nm	> 93% over 154 nm	25 mm x 5.0 mm	2.0 mm	FF01-439/154-25
440 nm	> 93% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-440/40-25
442 nm	> 93% over 42 nm	25 mm x 5.0 mm	2.0 mm	FF01-442/42-25
445 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-445/20-25
445 nm	> 90% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-445/40-25
445 nm	> 90% over 45 nm	25 mm x 5.0 mm	2.0 mm	FF01-445/45-25
447 nm	> 93% over 60 nm	25 mm x 3.5 mm	2.0 mm	FF02-447/60-25
448 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-448/20-25

BrightLine® Single-Band Bandpass Filters (Continued)

BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
450 nm	> 90% over 70 nm	25 mm x 3.5 mm	2.0 mm	FF01-450/70-25
452 nm	> 93% over 45 nm	25 mm x 3.5 mm	2.0 mm	FF01-452/45-25
457 nm	> 90% over 50 nm	25 mm x 5.0 mm	3.5 mm	FF01-457/50-25
458 nm	> 90% over 64 nm	25 mm x 3.5 mm	2.0 mm	FF01-458/64-25
460 nm	> 90% over 14 nm	25 mm x 5.0 mm	3.0 mm	FF01-460/14-25
460 nm	> 90% over 60 nm	25 mm x 3.5 mm	2.0 mm	FF01-460/60-25
460 nm	> 90% over 80 nm	25 mm x 5.0 mm	2.0 mm	FF02-460/80-25
461 nm	> 90% over 5 nm	25 mm x 3.5 mm	2.0 mm	FF01-461/5-25
465 nm	> 90% over 30 nm	25 mm x 5.0 mm	3.5 mm	FF01-465/30-25
466 nm	> 90% over 5 nm	25 mm x 5.0 mm	3.5 mm	FF01-466/5-25
466 nm	> 93% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF01-466/40-25
469 nm	> 90% over 35 nm	25 mm x 5.0 mm	2.0 mm	FF01-469/35-25
470 nm	> 93% over 22 nm	25 mm x 5.0 mm	2.0 mm	FF01-470/22-25
470 nm	> 90% over 28 nm	25 mm x 5.0 mm	3.5 mm	FF01-470/28-25
470 nm	> 93% over 100 nm	25 mm x 5.0 mm	2.0 mm	FF02-470/100-25
472 nm	> 93% over 30 nm	25 mm x 5.0 mm	2.0 mm	FF02-472/30-25
473 nm	> 90% over 10 nm	25 mm x 3.5 mm	2.0 mm	FF01-473/10-25
474 nm	> 93% over 23 nm	25 mm x 5.0 mm	2.0 mm	FF01-474/23-25
474 nm	> 93% over 27 nm	25 mm x 5.0 mm	2.0 mm	FF01-474/27-25
475 nm	> 92% over 23 nm	25 mm x 3.5 mm	2.0 mm	FF01-475/23-25
475 nm	> 90% over 28 nm	25 mm x 5.0 mm	2.0 mm	FF01-475/28-25
475 nm	> 90% over 35 nm	25 mm x 5.0 mm	2.0 mm	FF01-475/35-25
475 nm	> 90% over 42 nm	25 mm x 5.0 mm	3.5 mm	FF01-475/42-25
475 nm	> 93% over 50 nm	25 mm x 5.0 mm	2.0 mm	FF02-475/50-25
479 nm	> 90% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-479/40-25
480 nm	> 92% over 17 nm	25 mm x 3.5 mm	2.0 mm	FF01-480/17-25
482 nm	> 93% over 18 nm	25 mm x 5.0 mm	2.0 mm	FF02-482/18-25
482 nm	> 93% over 25 nm	25 mm x 3.5 mm	2.0 mm	FF01-482/25-25
482 nm	> 93% over 35 nm	25 mm x 5.0 mm	2.0 mm	FF01-482/35-25
483 nm	> 93% over 32 nm	25 mm x 3.5 mm	2.0 mm	FF01-483/32-25
485 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF02-485/20-25
488 nm	> 90% over 6 nm	25 mm x 3.5 mm	2.0 mm	FF01-488/6-25
488 nm	> 93% over 10 nm	25 mm x 3.5 mm	2.0 mm	FF01-488/10-25
488 nm	> 93% over 50 nm	25 mm x 3.5 mm	2.0 mm	FF01-488/50-25

BrightLine® Single-Band Bandpass Filters (Continued)

BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
490 nm	> 93% over 60 nm	25 mm x 3.5 mm	2.0 mm	FF01-490/60-25
494 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-494/20-25
494 nm	> 93% over 34 nm	25 mm x 3.5 mm	2.0 mm	FF01-494/34-25
494 nm	> 90% over 41 nm	25 mm x 5.0 mm	3.5 mm	FF01-494/41-25
497 nm	> 90% over 16 nm	25 mm x 5.0 mm	2.0 mm	FF01-497/16-25
497 nm	> 90% over 16 nm	25 mm x 5.0 mm	2.0 mm	FF01-497/16-25
500 nm	> 93% over 15 nm	25 mm x 5.0 mm	2.0 mm	FF01-500/15-25
500 nm	> 93% over 24 nm	25 mm x 5.0 mm	3.5 mm	FF01-500/24-25
503 nm	> 93% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-503/40-25
504 nm	> 93% over 12 nm	25 mm x 5.0 mm	2.0 mm	FF01-504/12-25
509 nm	> 93% over 22 nm	25 mm x 5.0 mm	2.0 mm	FF01-509/22-25
510 nm	> 93% over 10 nm	25 mm x 5.0 mm	2.0 mm	FF02-510/10-25
510 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF03-510/20-25
510 nm	> 90% over 42 nm	25 mm x 3.5 mm	2.0 mm	FF01-510/42-25
510 nm	> 93% over 84 nm	25 mm x 3.5 mm	2.0 mm	FF01-510/84-25
511 nm	> 90% over 20 nm	25 mm x 3.5 mm	2.0 mm	FF01-511/20-25
512 nm	> 92% over 25 nm	25 mm x 3.5 mm	2.0 mm	FF01-512/25-25
513 nm	> 93% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-513/13-25
513 nm	> 90% over 17 nm	25 mm x 3.5 mm	2.0 mm	FF01-513/17-25
514 nm	> 93% over 3 nm	25 mm x 5.0 mm	2.0 mm	FF01-514/3-25
514 nm	> 93% over 30 nm	25 mm x 3.5 mm	2.0 mm	FF01-514/30-25
514 nm	> 93% over 44 nm	25 mm x 3.5 mm	1.05 mm	FF01-514/44-25
515 nm	> 93% over 30 nm	25 mm x 3.5 mm	2.0 mm	FF01-515/30-25
517 nm	> 90% over 20 nm	25 mm x 5.0 mm	3.5 mm	FF01-517/20-25
520 nm	> 93% over 5 nm	25 mm x 3.5 mm	2.0 mm	FF01-520/5-25
520 nm	> 93% over 15 nm	25 mm x 5.0 mm	2.0 mm	FF01-520/15-25
520 nm	> 93% over 28 nm	25 mm x 3.5 mm	2.0 mm	FF02-520/28-25
520 nm	> 93% over 35 nm	25 mm x 3.5 mm	2.0 mm	FF01-520/35-25
520 nm	> 90% over 44 nm	25 mm x 3.5 mm	2.0 mm	FF01-520/44-25
520 nm	> 90% over 60 nm	25 mm x 3.5 mm	2.0 mm	FF01-520/60-25
520 nm	See Multiphoton filters			FF01-520/70-25
523 nm	> 93% over 20 nm	25 mm x 3.5 mm	2.0 mm	FF01-523/20-25
524 nm	> 93% over 24 nm	25 mm x 3.5 mm	2.0 mm	FF01-524/24-25
525 nm	> 90% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-525/15-25

BrightLine® Single-Band Bandpass Filters (Continued)

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Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
525 nm	> 90% over 30 nm	25 mm x 3.5 mm	2.0 mm	FF01-525/30-25
525 nm	> 90% over 39 nm	25 mm x 3.5 mm	2.0 mm	FF01-525/39-25
525 nm	> 90% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF02-525/40-25
525 nm	> 93% over 45 nm	25 mm x 3.5 mm	2.0 mm	FF01-525/45-25
525 nm	> 93% over 50 nm	25 mm x 3.5 mm	2.0 mm	FF03-525/50-25
527 nm	> 93% over 20 nm	25 mm x 3.5 mm	2.0 mm	FF01-527/20-25
529 nm	> 90% over 24 nm	25 mm x 5.0 mm	2.0 mm	FF02-529/24-25
530 nm	> 90% over 11 nm	25 mm x 5.0 mm	3.5 mm	FF01-530/11-25
530 nm	> 90% over 43 nm	25 mm x 3.5 mm	2.0 mm	FF01-530/43-25
530 nm	> 90% over 55 nm	25 mm x 3.5 mm	2.0 mm	FF01-530/55-25
531 nm	> 93% over 22 nm	25 mm x 5.0 mm	2.0 mm	FF02-531/22-25
531 nm	> 93% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF01-531/40-25
531 nm	> 94% over 46 nm	25 mm x 3.5 mm	2.0 mm	FF01-531/46-25
531 nm	> 93% over 3 nm	25 mm x 5.0 mm	2.0 mm	FF01-532/3-25
532 nm	> 90% over 18 nm	25 mm x 3.5 mm	2.0 mm	FF01-532/18-25
534 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-534/20-25
534 nm	> 93% over 30 nm	25 mm x 5.0 mm	2.0 mm	FF02-534/30-25
534 nm	> 90% over 42 nm	25 mm x 3.5 mm	2.0 mm	FF01-534/42-25
535 nm	> 90% over 22 nm	25 mm x 3.5 mm	2.0 mm	FF01-535/22-25
535 nm	> 90% over 50 nm	25 mm x 3.5 mm	1.05 mm	FF01-535/50-25
535 nm	> 93% over 150 nm	25 mm x 3.5 mm	2.0 mm	FF01-535/150-25
536 nm	> 93% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-536/40-25
537 nm	> 90% over 26 nm	25 mm x 5.0 mm	3.0 mm	FF01-537/26-25
538 nm	> 90% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-538/40-25
539 nm	> 90% over 30 nm	25 mm x 3.5 mm	2.0 mm	FF01-539/30-25
540 nm	> 93% over 15 nm	25 mm x 5.0 mm	2.0 mm	FF01-540/15-25
540 nm	> 93% over 50 nm	25 mm x 3.5 mm	2.0 mm	FF01-540/50-25
540 nm	> 93% over 80 nm	25 mm x 3.5 mm	2.0 mm	FF01-540/80-25
542 nm	> 90% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-542/20-25
542 nm	> 93% over 27 nm	25 mm x 3.5 mm	2.0 mm	FF01-542/27-25
543 nm	> 93% over 22 nm	25 mm x 5.0 mm	3.5 mm	FF01-543/22-25
544 nm	> 93% over 24 nm	25 mm x 3.5 mm	2.0 mm	FF01-544/24-25
545 nm	> 90% over 55 nm	25 mm x 3.5 mm	2.0 mm	FF01-545/55-25
546 nm	> 90% over 6 nm	25 mm x 3.5 mm	2.0 mm	FF01-546/6-25

BrightLine® Single-Band Bandpass Filters (Continued)

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Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
549 nm	> 90% over 12 nm	25 mm x 3.5 mm	2.0 mm	FF01-549/12-25
549 nm	> 90% over 15 nm	25 mm x 5.0 mm	3.5 mm	FF01-549/15-25
549 nm	> 93% over 17 nm	25 mm x 3.5 mm	2.0 mm	FF01-549/17-25
550 nm	> 90% over 32 nm	25 mm x 3.5 mm	2.0 mm	FF01-550/32-25
550 nm	> 90% over 49 nm	25 mm x 3.5 mm	2.0 mm	FF01-550/49-25
550 nm	> 92% over 88 nm	25 mm x 3.5 mm	2.0 mm	FF01-550/88-25
550 nm	> 90% over 200 nm	25 mm x 3.5 mm	2.0 mm	FF01-550/200-25
554 nm	> 93% over 23 nm	25 mm x 5.0 mm	2.0 mm	FF01-554/23-25
556 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-556/20-25
558 nm	> 90% over 20 nm	25 mm x 5.0 mm	3.5 mm	FF01-558/20-25
559 nm	> 90% over 34 nm	25 mm x 5.0 mm	2.0 mm	FF01-559/34-25
560 nm	> 93% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-560/14-25
560 nm	> 93% over 25 nm	25 mm x 5.0 mm	2.0 mm	FF01-560/25-25
560 nm	> 90% over 94 nm	25 mm x 3.5 mm	2.0 mm	FF01-560/94-25
561 nm	> 93% over 4 nm	25 mm x 5.0 mm	3.5 mm	FF01-561/4-25
561 nm	> 93% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-561/14-25
562 nm	> 93% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF01-562/40-25
563 nm	> 93% over 9 nm	25 mm x 5.0 mm	2.0 mm	FF01-563/9-25
565 nm	> 90% over 24 nm	25 mm x 5.0 mm	2.0 mm	FF01-565/24-25
567 nm	> 95% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-567/15-25
571 nm	> 93% over 72 nm	25 mm x 3.5 mm	2.0 mm	FF01-571/72-25
572 nm	> 92% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-572/15-25
572 nm	> 93% over 28 nm	25 mm x 3.5 mm	2.0 mm	FF01-572/28-25
575 nm	> 90% over 15 nm	25 mm x 5.0 mm	3.5 mm	FF01-575/15-25
575 nm	> 93% over 25 nm	25 mm x 5.0 mm	2.0 mm	FF03-575/25-25
575 nm	> 93% over 59 nm	25 mm x 3.5 mm	2.0 mm	FF01-575/59-25
578 nm	> 93% over 21 nm	25 mm x 5.0 mm	2.0 mm	FF01-578/21-25
578 nm	> 90% over 105 nm	25 mm x 3.5 mm	2.0 mm	FF01-578/105-25
579 nm	> 90% over 34 nm	25 mm x 3.5 mm	2.0 mm	FF01-579/34-25
580 nm	> 93% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-580/14-25
580 nm	> 90% over 23 nm	25 mm x 3.5 mm	2.0 mm	FF01-580/23-25
582 nm	> 90% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-582/15-25
582 nm	> 93% over 64 nm	25 mm x 3.5 mm	2.0 mm	FF01-582/64-25
582 nm	> 90% over 75 nm	25 mm x 5.0 mm	2.0 mm	FF01-582/75-25

BrightLine® Single-Band Bandpass Filters (Continued)

BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
583 nm	> 92% over 22 nm	25 mm x 3.5 mm	2.0 mm	FF01-583/22-25
585 nm	> 93% over 29 nm	25 mm x 5.0 mm	2.0 mm	FF01-585/29-25
585 nm	> 90% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-585/40-25
586 nm	> 90% over 15 nm	25 mm x 5.0 mm	2.0 mm	FF02-586/15-25
586 nm	> 93% over 20 nm	25 mm x 3.5 mm	2.0 mm	FF01-586/20-25x3.5
586 nm	> 93% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-586/20-25x5
587 nm	> 90% over 35 nm	25 mm x 5.0 mm	3.0 mm	FF01-587/35-25
589 nm	> 93% over 15 nm	25 mm x 5.0 mm	2.0 mm	FF01-589/15-25
589 nm	> 93% over 18 nm	25 mm x 3.5 mm	1.05 mm	FF01-589/18-25
590 nm	> 93% over 20 nm	25 mm x 5.0 mm	3.5 mm	FF01-590/20-25
590 nm	> 93% over 36 nm	25 mm x 3.5 mm	2.0 mm	FF01-590/36-25
591 nm	> 93% over 6 nm	25 mm x 5.0 mm	2.0 mm	FF01-591/6-25
592 nm	> 93% over 8 nm	25 mm x 5.0 mm	3.5 mm	FF01-592/8-25
593 nm	> 93% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-593/40-25
593 nm	> 94% over 46 nm	25 mm x 3.5 mm	2.0 mm	FF01-593/46-25
595 nm	> 93% over 31 nm	25 mm x 3.5 mm	2.0 mm	FF01-595/31-25
598 nm	> 93% over 25 nm	25 mm x 3.5 mm	2.0 mm	FF01-598/25-25
600 nm	> 93% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-600/14-25
600 nm	> 93% over 37 nm	25 mm x 3.5 mm	2.0 mm	FF01-600/37-25
600 nm	> 93% over 52 nm	25 mm x 3.5 mm	2.0 mm	FF01-600/52-25
605 nm	> 90% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-605/15-25
605 nm	> 90% over 64 nm	25 mm x 3.5 mm	2.0 mm	FF01-605/64-25
607 nm	> 93% over 36 nm	25 mm x 3.5 mm	2.0 mm	FF01-607/36-25
607 nm	> 92% over 70 nm	25 mm x 3.5 mm	2.0 mm	FF01-607/70-25
609 nm	> 93% over 54 nm	25 mm x 3.5 mm	2.0 mm	FF01-609/54-25
609 nm	> 94% over 57 nm	25 mm x 3.5 mm	2.0 mm	FF01-609/57-25
609 nm	> 93% over 62 nm	25 mm x 3.5 mm	2.0 mm	FF01-609/62-25
609 nm	> 93% over 181 nm	25 mm x 3.5 mm	2.0 mm	FF01-609/181-25
612 nm	> 90% over 69 nm	25 mm x 3.5 mm	2.0 mm	FF01-612/69-25
615 nm	> 90% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF02-615/20-25
615 nm	> 90% over 24 nm	25 mm x 3.5 mm	2.0 mm	FF01-615/24-25
615 nm	> 90% over 45 nm	25 mm x 3.5 mm	2.0 mm	FF01-615/45-25
617 nm	> 90% over 73 nm	25 mm x 5.0 mm	2.0 mm	FF02-617/73-25
618 nm	> 93% over 50 nm	25 mm x 5.0 mm	2.0 mm	FF01-618/50-25

BrightLine® Single-Band Bandpass Filters (Continued)

BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
620 nm	> 93% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-620/14-25
620 nm	> 90% over 52 nm	25 mm x 3.5 mm	2.0 mm	FF01-620/52-25
623 nm	> 90% over 24 nm	25 mm x 5.0 mm	3.5 mm	FF01-623/24-25
623 nm	> 93% over 32 nm	25 mm x 3.5 mm	2.0 mm	FF01-623/32-25
624 nm	> 93% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-624/40-25
625 nm	> 90% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-625/15-25
625 nm	> 93% over 26 nm	25 mm x 5.0 mm	3.5 mm	FF01-625/26-25
625 nm	See Multiphoton filters			FF01-625/90-25
628 nm	> 93% over 32 nm	25 mm x 3.5 mm	2.0 mm	FF01-628/32-25
628 nm	> 93% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF02-628/40-25
629 nm	> 90% over 56 nm	25 mm x 3.5 mm	2.0 mm	FF01-629/56-25
630 nm	> 90% over 20 nm	25 mm x 3.5 mm	2.0 mm	FF01-630/20-25
630 nm	> 90% over 38 nm	25 mm x 5.0 mm	2.0 mm	FF01-630/38-25
630 nm	> 90% over 69 nm	25 mm x 3.5 mm	2.0 mm	FF01-630/69-25
630 nm	> 92% over 92 nm	25 mm x 3.5 mm	2.0 mm	FF01-630/92-25
631 nm	> 90% over 36 nm	25 mm x 3.5 mm	1.05 mm	FF01-631/36-25
632 nm	> 93% over 22 nm	25 mm x 5.0 mm	2.0 mm	FF02-632/22-25
635 nm	> 93% over 18 nm	25 mm x 5.0 mm	2.0 mm	FF01-635/18-25
636 nm	> 90% over 8 nm	25 mm x 3.5 mm	2.0 mm	FF01-636/8-25
637 nm	> 93% over 7 nm	25 mm x 3.5 mm	2.0 mm	FF01-637/7-25
640 nm	> 93% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-640/14-25
640 nm	> 90% over 20 nm	25 mm x 3.5 mm	2.0 mm	FF01-640/20-25
640 nm	> 90% over 40 nm	25 mm x 5.0 mm	3.5 mm	FF01-640/40-25
641 nm	> 93% over 75 nm	25 mm x 3.5 mm	2.0 mm	FF02-641/75-25
642 nm	> 93% over 10 nm	25 mm x 5.0 mm	3.5 mm	FF01-642/10-25
647 nm	> 92% over 57 nm	25 mm x 3.5 mm	2.0 mm	FF01-647/57-25
650 nm	> 93% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-650/13-25
650 nm	> 95% over 60 nm	25 mm x 3.5 mm	2.0 mm	FF01-650/60-25
650 nm	> 93% over 100 nm	25 mm x 5.0 mm	2.0 mm	FF02-650/100-25
650 nm	> 93% over 150 nm	25 mm x 5.0 mm	3.5 mm	FF01-650/150-25
655 nm	> 90% over 15 nm	25 mm x 3.5 mm	2.0 mm	FF01-655/15-25
655 nm	> 93% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF02-655/40-25
660 nm	> 93% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-660/13-25
660 nm	> 90% over 30 nm	25 mm x 3.5 mm	2.0 mm	FF01-660/30-25

BrightLine® Single-Band Bandpass Filters (Continued)

BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
660 nm	> 90% over 52 nm	25 mm x 3.5 mm	2.0 mm	FF01-660/52-25
661 nm	> 93% over 11 nm	25 mm x 3.5 mm	2.0 mm	FF01-661/11-25
661 nm	> 90% over 20 nm	25 mm x 5.0 mm	3.5 mm	FF01-661/20-25
662 nm	> 93% over 11 nm	25 mm x 3.5 mm	2.0 mm	FF01-662/11-25
665 nm	> 93% over 150 nm	25 mm x 3.5 mm	2.0 mm	FF01-665/150-25
670 nm	> 95% over 30 nm	25 mm x 3.5 mm	2.0 mm	FF01-670/30-25
673 nm	> 90% over 11 nm	25 mm x 3.5 mm	2.0 mm	FF01-673/11-25
675 nm	> 90% over 67 nm	25 mm x 5.0 mm	2.0 mm	FF02-675/67-25
676 nm	> 90% over 29 nm	25 mm x 3.5 mm	2.0 mm	FF01-676/29-25
676 nm	> 94% over 37 nm	25 mm x 3.5 mm	2.0 mm	FF01-676/37-25
679 nm	> 90% over 41 nm	25 mm x 3.5 mm	2.0 mm	FF01-679/41-25
680 nm	> 93% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-680/13-25
680 nm	> 90% over 22 nm	25 mm x 5.0 mm	3.5 mm	FF01-680/22-25
680 nm	> 93% over 42 nm	25 mm x 3.5 mm	2.0 mm	FF01-680/42-25
681 nm	> 90% over 24 nm	25 mm x 3.5 mm	1.05 mm	FF01-681/24-25
684 nm	> 93% over 24 nm	25 mm x 5.0 mm	2.0 mm	FF02-684/24-25
685 nm	> 90% over 10 nm	25 mm x 5.0 mm	2.0 mm	FF01-685/10-25
685 nm	> 93% over 40 nm	25 mm x 5.0 mm	2.0 mm	FF02-685/40-25
690 nm	> 90% over 8 nm	25 mm x 3.5 mm	2.0 mm	FF01-690/8-25
692 nm	> 93% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-692/40-25
694 nm	> 90% over 44 nm	25 mm x 3.5 mm	2.0 mm	FF01-694/44-25
697 nm	> 90% over 58 nm	25 mm x 3.5 mm	1.05 mm	FF01-697/58-25
698 nm	> 93% over 70 nm	25 mm x 3.5 mm	2.0 mm	FF01-698/70-25
700 nm	> 93% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-700/13-25
708 nm	> 93% over 75 nm	25 mm x 5.0 mm	2.0 mm	FF01-708/75-25
710 nm	> 93% over 40 nm	25 mm x 5.0 mm	3.5 mm	FF01-710/40-25
711 nm	> 90% over 25 nm	25 mm x 5.0 mm	3.5 mm	FF01-711/25-25
716 nm	> 93% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-716/40-25
719 nm	> 93% over 60 nm	25 mm x 3.5 mm	2.0 mm	FF01-719/60-25
720 nm	> 93% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-720/13-25
720 nm	> 90% over 24 nm	25 mm x 3.5 mm	2.0 mm	FF01-720/24-25
725 nm	> 93% over 40 nm	25 mm x 5.0 mm	3.5 mm	FF01-725/40-25
730 nm	> 93% over 39 nm	25 mm x 3.5 mm	2.0 mm	FF01-730/39-25
731 nm	> 90% over 137 nm	25 mm x 3.5 mm	1.05 mm	FF01-731/137-25

BrightLine® Single-Band Bandpass Filters (Continued)

BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
732 nm	> 90% over 68 nm	25 mm x 3.5 mm	2.0 mm	FF01-732/68-25
735 nm	> 93% over 28 nm	25 mm x 5.0 mm	2.0 mm	FF01-735/28-25
740 nm	> 93% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-740/13-25
747 nm	> 93% over 33 nm	25 mm x 5.0 mm	2.0 mm	FF01-747/33-25
755 nm	> 93% over 35 nm	25 mm x 5.0 mm	3.5 mm	FF01-755/35-25
760 nm	> 93% over 12 nm	25 mm x 5.0 mm	2.0 mm	FF01-760/12-25
766 nm	> 90% over 13 nm	25 mm x 3.5 mm	2.0 mm	FF01-766/13-25
769 nm	> 93% over 41 nm	25 mm x 5.0 mm	2.0 mm	FF01-769/41-25
775 nm	> 93% over 46 nm	25 mm x 3.5 mm	2.0 mm	FF01-775/46-25
775 nm	> 90% over 140 nm	25 mm x 3.5 mm	2.0 mm	FF01-775/140-25
780 nm	> 93% over 12 nm	25 mm x 5.0 mm	2.0 mm	FF01-780/12-25
785 nm	> 94% over 62 nm	25 mm x 3.5 mm	2.0 mm	FF01-785/62-25
786 nm	> 93% over 22 nm	25 mm x 3.5 mm	2.0 mm	FF01-786/22-25
792 nm	> 93% over 64 nm	25 mm x 3.5 mm	2.0 mm	FF01-792/64-25
794 nm	> 90% over 32 nm	25 mm x 3.5 mm	2.0 mm	FF01-794/32-25
794 nm	> 93% over 160 nm	25 mm x 5.0 mm	2.0 mm	FF01-794/160-25
795 nm	> 93% over 150 nm	25 mm x 3.5 mm	2.0 mm	FF01-795/150-25
800 nm	> 93% over 12 nm	25 mm x 5.0 mm	2.0 mm	FF01-800/12-25
809 nm	> 93% over 81 nm	25 mm x 3.5 mm	2.0 mm	FF02-809/81-25
810 nm	> 90% over 10 nm	25 mm x 3.5 mm	2.0 mm	FF01-810/10-25
819 nm	> 90% over 44 nm	25 mm x 3.5 mm	2.0 mm	FF01-819/44-25
820 nm	> 93% over 12 nm	25 mm x 5.0 mm	2.0 mm	FF01-820/12-25
832 nm	> 93% over 37 nm	25 mm x 3.5 mm	2.0 mm	FF01-832/37-25
835 nm	> 93% over 70 nm	25 mm x 3.5 mm	2.0 mm	FF01-835/70-25
840 nm	> 93% over 12 nm	25 mm x 5.0 mm	2.0 mm	FF01-840/12-25
842 nm	> 90% over 56 nm	25 mm x 3.5 mm	2.0 mm	FF01-842/56-25
850 nm	> 90% over 10 nm	25 mm x 3.5 mm	2.0 mm	FF01-850/10-25
850 nm	See Multiphoton filters			FF01-850/310-25
857 nm	> 90% over 30 nm	25 mm x 3.5 mm	1.05 mm	FF01-857/30-25
860 nm	> 93% over 11 nm	25 mm x 5.0 mm	2.0 mm	FF01-860/11-25
880 nm	> 93% over 11 nm	25 mm x 5.0 mm	2.0 mm	FF01-880/11-25
900 nm	> 93% over 11 nm	25 mm x 5.0 mm	2.0 mm	FF01-900/11-25
900 nm	> 90% over 32 nm	25 mm x 3.5 mm	2.0 mm	FF01-900/32-25
920 nm	> 93% over 10 nm	25 mm x 5.0 mm	2.0 mm	FF01-920/10-25

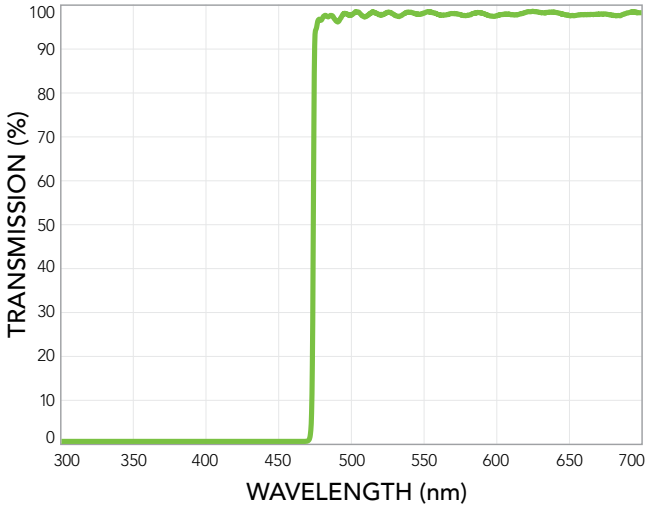
BrightLine® Single-Band Bandpass Filters (Continued)

BrightLine® Single-Band Bandpass Filters

Center Wavelength	Avg. Transmission and Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
935 nm	> 93% over 170 nm	25 mm x 3.5 mm	2.0 mm	FF01-935/170-25
940 nm	> 90% over 10 nm	25 mm x 3.5 mm	2.0 mm	FF01-940/10-25
1055 nm	> 93% over 70 nm	25 mm x 3.5 mm	2.0 mm	FF01-1055/70-25
1064 nm	> 90% over 5 nm	25 mm x 3.5 mm	2.0 mm	FF01-1064/5-25
1074 nm	> 90% over 14 nm	25 mm x 3.5 mm	2.0 mm	FF01-1072/14-25
1535 nm	See Near-IR Bandpass filters			NIR01-1535/3-25
1538 nm	> 93% over 82 nm	25 mm x 5.0 mm	3.0 mm	FF01-1538/82-25
1550 nm	See Near-IR bandpass filters			NIR01-1550/3-25
1570 nm	See Near-IR bandpass filters			NIR01-1570/3-25

BrightLine® Long/Short Pass Single-Edge Filters

IDEX Health & Science stocks an exceptional range of high-performance, high-reliability individual Semrock fluorescence edge filters optimized for use in a variety of fluorescence instruments. These filters exclusively use our patented single-substrate construction for the highest performance and reliability. Unless otherwise noted, all filters are housed in a standard 25 mm round black anodized aluminum ring with the indicated thickness and a clear aperture of at least 21 mm. Parts with a "/LP" in the part number are long-wave-pass edge filters, and parts with a "/SP" are short-wave-pass edge filters.



LEARN MORE ABOUT BRIGHTLINE® LONG/SHORT PASS SINGLE-EDGE FILTERS AT IDEX-HS.COM/SINGLE-FILTERS

BrightLine® Long / Short Pass Single-Edge Filters

Edge Wavelength	Avg. Transmission / Passband	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
274 nm	> 88% 277 - 358 nm	25 mm x 3.5 mm	2.0 mm	FF01-267/LP-25
280 nm	> 75% 282 - 300 nm > 90% 300 - 560 nm	25 mm x 3.5 mm	1.05 mm	FF01-272/LP-25
272 nm	> 35% 245 - 270 nm	25 mm x 3.5 mm	2.0 mm	FF01-276/SP-25
294 nm	> 70% 255 - 290 nm	25 mm x 3.5 mm	1.05 mm	FF01-300/SP-25
306 nm	> 85% 305 - 420 nm	25 mm x 5.0 mm	2.0 mm	FF01-300/LP-25
304 nm	> 70% 250 - 300 nm	25 mm x 3.5 mm	2.0 mm	FF01-311/SP-25
347 nm	> 90% 350 - 500 nm	25 mm x 3.5 mm	2.0 mm	FF01-341/LP-25
378 nm	> 70% 320 - 370 nm	25 mm x 3.5 mm	2.0 mm	FF01-390/SP-25
388 nm	> 93% 390 - 930 nm	25 mm x 3.5 mm	2.0 mm	FF01-380/LP-25
415 nm	> 93% 417 - 1100 nm	25 mm x 3.5 mm	2.0 mm	FF02-409/LP-25
421 nm	> 90% 350 - 419 nm	25 mm x 5.0 mm	3.5 mm	FF01-424/SP-25
437 nm	> 90% 439 - 900 nm	25 mm x 3.5 mm	2.0 mm	FF01-430/LP-25
430 nm	> 93% 380 - 427 nm	25 mm x 5.0 mm	3.5 mm	FF01-440/SP-25
460 nm	> 93% 350 - 458 nm	25 mm x 3.5 mm	2.0 mm	FF01-468/SP-25
483 nm	> 93% 400 - 480 nm	25 mm x 5.0 mm	3.0 mm	FF01-492/SP-25
492 nm	> 93% 400 - 490 nm	25 mm x 3.5 mm	2.0 mm	FF01-498/SP-25
501 nm	> 93% 503 - 1100 nm	25 mm x 3.5 mm	2.0 mm	FF01-496/LP-25
515 nm	> 90% 519 - 700 nm	25 mm x 3.5 mm	2.0 mm	FF01-500/LP-25

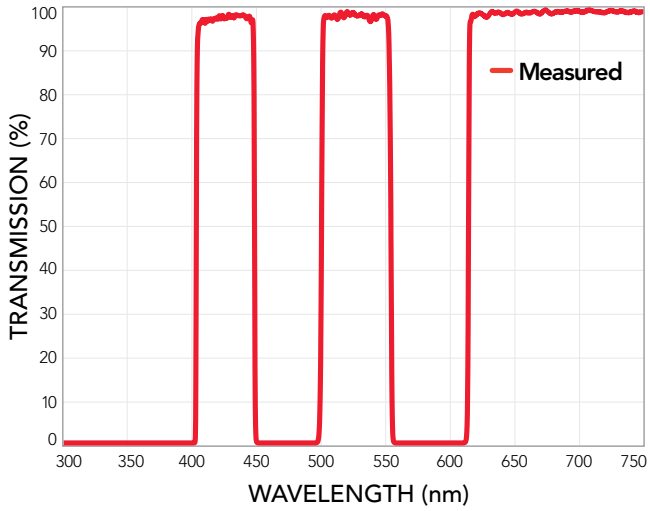
BrightLine® Long/Short Pass Single-Edge Filters (Continued)

BrightLine® Long / Short Pass Single-Edge Filters

Edge Wavelength	Avg. Transmission / Passband	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
522 nm	> 90% 525 - 800 nm	25 mm x 3.5 mm	2.0 mm	FF01-515/LP-25
530 nm	> 93% 534 - 653 nm	25 mm x 3.5 mm	2.0 mm	FF01-519/LP-25
522 nm	> 90% 380 - 520 nm	25 mm x 3.5 mm	2.0 mm	FF01-533/SP-25
541 nm	> 93% 400 - 538 nm	25 mm x 3.5 mm	1.05 mm	FF01-546/SP-25
601 nm	> 93% 604 - 1100 nm	25 mm x 3.5 mm	2.0 mm	FF01-593/LP-25
638 nm	> 85% 360 - 634 nm	25 mm x 3.5 mm	1.05 mm	FF01-650/SP-25
654 nm	See Multiphoton filters			FF01-680/SP-25
690 nm	> 93% 694 - 900 nm	25 mm x 3.5 mm	2.0 mm	FF01-685/LP-25
681 nm	> 93% 400 - 678 nm	25 mm x 3.5 mm	2.0 mm	FF02-694/SP-25
723 nm	> 93% 725 - 1200 nm	25 mm x 3.5 mm	2.0 mm	FF01-715/LP-25
706 nm	> 93% 450 - 700 nm	25 mm x 3.5 mm	2.0 mm	FF01-715/SP-25
696 nm	See Multiphoton filters			FF01-720/SP-25
754 nm	> 90% 761 - 850 nm	25 mm x 3.5 mm	2.0 mm	FF01-736/LP-25
729 nm	> 93% 390 - 730 nm	25 mm x 3.5 mm	1.05 mm	FF01-745/SP-25
727 nm	See Multiphoton filters			FF01-750/SP-25
748 nm	> 93% 550 - 745.5 nm	25 mm x 3.5 mm	2.0 mm	FF01-758/SP-25
715 nm	> 90% 425 - 675 nm	25 mm x 3.5 mm	1.05 mm	FF01-760/SP-25
747 nm	See Multiphoton filters			FF01-770/SP-25
761 nm	> 93% 481 - 756 nm	25 mm x 3.5 mm	2.0 mm	FF01-775/SP-25
785 nm	> 93% 789 - 1200 nm	25 mm x 3.5 mm	2.0 mm	FF01-776/LP-25
765 nm	See Multiphoton filters			FF01-790/SP-25
835 nm	> 95% 485 - 831 nm	25 mm x 3.5 mm	2.0 mm	FF01-842/SP-25
875 nm	See Multiphoton filters			FF01-890/SP-25
910 nm	See Multiphoton filters			FF01-940/SP-25
938 nm	> 90% 600 - 935 nm	25 mm x 3.5 mm	2.0 mm	FF01-945/SP-25
945 nm	> 93% 950 - 2500 nm	25 mm x 3.5 mm	2.0 mm	FF01-937/LP-25
912 nm	> 93% 430 - 908 nm	25 mm x 3.5 mm	2.0 mm	FF01-950/SP-25
1002 nm	> 90% 400 - 1000 nm	25 mm x 3.5 mm	2.0 mm	FF01-1010/SP-25
1304 nm	> 93% 800 - 1300 nm	25 mm x 3.5 mm	2.0 mm	FF01-1326/SP-25
1550 nm	> 93% 1560 - 2000 nm	25 mm x 3.5 mm	2.0 mm	FF01-1535/LP-25

BrightLine® Multiband Bandpass Filters

IDEX Health & Science offers a unique selection of individual, high-performance Semrock multiband fluorescence bandpass filters optimized for use in a variety of fluorescence instruments. These filters all use our exclusively single-substrate, low-autofluorescence glass construction. All filters are housed in a standard 25 mm round black-anodized aluminum ring with the indicated thickness and have a clear aperture of at least 21 mm. These filters have extremely high transmission, steep and well-defined edges, and outstanding blocking between the passbands.



LEARN MORE ABOUT BRIGHTLINE® MULTIBAND BANDPASS FILTERS AT IDEX-HS.COM/SINGLE-FILTERS

Dual-band Filters

Center Wavelength	Avg. Transmission / Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
387 nm 480 nm	> 80% over 11 nm > 90% over 29 nm	25 mm x 5.0 mm	2.0 mm	FF01-387/480-25
416 nm 501 nm	> 90% over 25 nm > 90% over 18 nm	25 mm x 5.0 mm	3.5 mm	FF01-416/501-25
433 nm 530 nm	> 90% over 38 nm > 90% over 40 nm	25 mm x 3.5 mm	2.0 mm	FF01-433/530-25
449 nm 520 nm	> 90% over 20 nm > 90% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-449/520-25
468 nm 553 nm	> 90% over 34 nm > 90% over 24 nm	25 mm x 5.0 mm	3.5 mm	FF01-468/553-25
479 nm 585 nm	> 90% over 38 nm > 90% over 27 nm	25 mm x 5.0 mm	3.5 mm	FF01-479/585-25
482 nm 563.5 nm	> 93% over 18 nm > 93% over 7 nm	25 mm x 5.0 mm	2.0 mm	FF01-482/563-25
484 nm 561 nm	> 90% over 22 nm > 90% over 30 nm	25 mm x 3.5 mm	2.0 mm	FF01-484/561-25
512 nm 630 nm	> 90% over 23 nm > 90% over 91 nm	25 mm x 3.5 mm	2.0 mm	FF01-512/630-25
523 nm 610 nm	> 93% over 40 nm > 93% over 52 nm	25 mm x 3.5 mm	2.0 mm	FF01-523/610-25
524 nm 628 nm	> 90% over 29 nm > 90% over 33 nm	25 mm x 3.5 mm	2.0 mm	FF01-524/628-25
527 nm 645 nm	> 93% over 42 nm > 93% over 49 nm	25 mm x 3.5 mm	2.0 mm	FF01-527/645-25
534 nm 635 nm	> 90% over 36 nm > 90% over 31 nm	25 mm x 5.0 mm	3.5 mm	FF01-534/635-25
577 nm 690 nm	> 90% over 24 nm > 90% over 50 nm	25 mm x 3.5 mm	2.0 mm	FF01-577/690-25

BrightLine® Multiband Bandpass Filters (Continued)

Triple-band Filters

Center Wavelength	Avg. Transmission / Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
378 nm 474 nm 575 nm	> 85% over 52 nm > 93% over 26.5 nm > 93% over 25 nm	25 mm x 5.0 mm	2.0 mm	FF01-378/474/575-25
387.5 nm 478 nm 555.5 nm	> 80% over 11 nm > 90% over 24 nm > 90% over 19 nm	25 mm x 5.0 mm	2.0 mm	FF01-387/478/555-25
390 nm 482 nm 587 nm	> 85% over 40 nm > 93% over 18 nm > 93% over 15 nm	25 mm x 5.0 mm	2.0 mm	FF01-390/482/587-25
407 nm 494 nm 576 nm	> 80% over 14 nm > 85% over 20 nm > 85% over 20 nm	25 mm x 5.0 mm	2.0 mm	FF01-407/494/576-25
422 nm 503 nm 572 nm	> 90% over 30 nm > 90% over 18 nm > 90% over 18 nm	25 mm x 5.0 mm	2.0 mm	FF01-422/503/572-25
432 nm 523 nm 702 nm	> 93% over 36 nm > 93% over 46 nm > 93% over 196 nm	25 mm x 3.5 mm	2.0 mm	FF01-432/523/702-25
432 nm 516.5 nm 614.5 nm	> 90% over 38 nm > 90% over 25 nm > 90% over 63 nm	25 mm x 3.5 mm	2.0 mm	FF01-433/517/613-25
438 nm 509 nm 578 nm	> 93% over 24 nm > 93% over 22 nm > 93% over 21 nm	25 mm x 5.0 mm	2.0 mm	FF01-438/509/578-25
446 nm 532 nm 646 nm	> 93% over 32.5 nm > 93% over 58.5 nm > 93% over 68 nm	25 mm x 3.5 mm	2.0 mm	FF01-446/532/646-25
457 nm 530 nm 628 nm	> 80% over 22 nm > 85% over 20 nm > 85% over 28 nm	25 mm x 3.5 mm	2.0 mm	FF01-457/530/628-25
465 nm 537 nm 623 nm	> 90% over 30 nm > 90% over 20 nm > 90% over 50 nm	25 mm x 3.5 mm	2.0 mm	FF01-465/537/623-25
475 nm 543 nm 702 nm	> 93% over 22 nm > 93% over 22 nm > 93% over 197 nm	25 mm x 3.5 mm	2.0 mm	FF01-475/543/702-25
515 nm 588 nm 700 nm	> 93% over 23 nm > 93% over 55.5 nm > 93% over 70 nm	25 mm x 3.5 mm	2.0 mm	FF01-515/588/700-25

BrightLine® Multiband Bandpass Filters (Continued)

Quad-band Filters

Center Wavelength	Avg. Transmission / Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
378 nm 474 nm 554 nm 635 nm	> 85% over 52 nm > 93% over 26.5 nm > 93% over 23 nm > 93% over 18 nm	25 mm x 5.0 mm	2.0 mm	FF01-378/474/554/635-25
387 nm 485 nm 559.5 nm 649.5 nm	> 80% over 11 nm > 90% over 20 nm > 90% over 25 nm > 90% over 13 nm	25 mm x 5.0 mm	2.0 mm	FF01-387/485/559/649-25
390 nm 482 nm 532 nm 640 nm	> 85% over 40 nm > 90% over 18 nm > 90% over 3 nm > 90% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-390/482/532/640-25
390 nm 482 nm 543.5 nm 640 nm	> 85% over 40 nm > 90% over 18 nm > 90% over 9 nm > 90% over 14 nm	25 mm x 5.0 mm	2.0 mm	FF01-390/482/563/640-25
390 nm 488 nm 557.5 nm 637.5 nm	> 85% over 40 nm > 93% over 10 nm > 93% over 15 nm > 93% over 15 nm	25 mm x 5.0 mm	2.0 mm	FF01-390/488/558/638-25
432 nm 515 nm 595 nm 730 nm	> 93% over 36 nm > 93% over 30 nm > 93% over 31 nm > 93% over 139 nm	25 mm x 3.5 mm	2.0 mm	FF01-432/515/595/730-25
440 nm 521 nm 607 nm 700 nm	> 90% over 40 nm > 90% over 21 nm > 90% over 34 nm > 90% over 45 nm	25 mm x 3.5 mm	2.0 mm	FF01-440/521/607/700-25
446.8 nm 510.5 nm 581.5 nm 703 nm	> 93% over 32.5 nm > 93% over 16 nm > 93% over 63 nm > 93% over 80 nm	25 mm x 3.5 mm	2.0 mm	FF01-446/510/581/703-25
446 nm 523 nm 600 nm 677 nm	> 90% over 32.5 nm > 90% over 42 nm > 90% over 35.5 nm > 90% over 27.5 nm	25 mm x 3.5 mm	2.0 mm	FF01-446/523/600/677-25
448 nm 521.7 nm 596.5 nm 706 nm	> 93% over 44 nm > 93% over 30.5 nm > 93% over 39 nm > 93% over 88 nm	25 mm x 3.5 mm	2.0 mm	FF01-448/522/597/706-25

BrightLine® Multiband Bandpass Filters (Continued)

Penta-band Filter

Center Wavelength	Avg. Transmission / Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
378 nm 474 nm 554 nm 635 nm 735 nm	> 85% over 52 nm > 90% over 26.5 nm > 90% over 23 nm > 90% over 18 nm > 90% over 28 nm	25 mm x 5.0 mm	3.5 mm	FF01-378/474/554/635/735-25
391 nm 477 nm 549 nm 638.5 nm 741 nm	> 85% over 44 nm > 90% over 12 nm > 90% over 16 nm > 90% over 17 nm > 90% over 32 nm	25 mm x 5.0 mm	3.5 mm	FF01-391/477/549/639/741-25
432 nm 515 nm 595 nm 681 nm 809 nm	> 93% over 36 nm > 93% over 30.5 nm > 93% over 31 nm > 93% over 40 nm > 93% over 81 nm	25 mm x 3.5 mm	2.0 mm	FF01-432/515/595/681/809-25
440 nm 520.5 nm 607 nm 694.5 nm 809 nm	> 90% over 40 nm > 90% over 21 nm > 90% over 34 nm > 90% over 34.5 nm > 90% over 81 nm	25 mm x 3.5 mm	2.0 mm	FF01-440/521/607/694/809-25
441 nm 511 nm 592.5 nm 684 nm 817 nm	> 90% over 30 nm > 90% over 26 nm > 90% over 37 nm > 90% over 34 nm > 90% over 66 nm	25 mm x 3.5 mm	2.0 mm	FF01-441/511/593/684/817-25

Eleven-band Filter

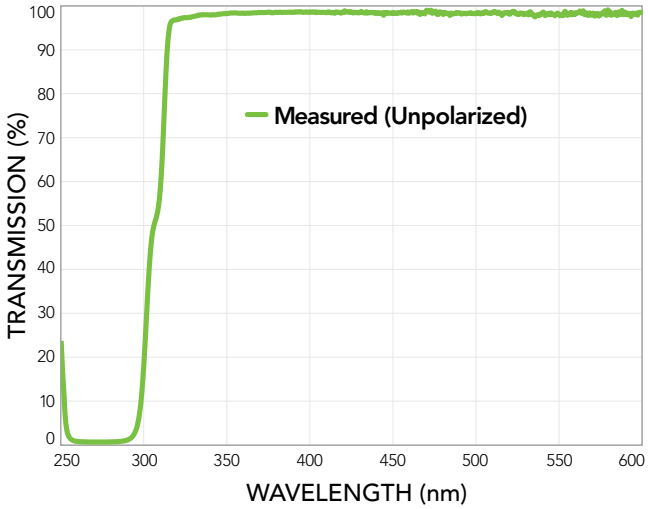
Center Wavelength	Avg. Transmission / Bandwidth	Housed Size (Diameter x Thickness)	Glass Thickness	Filter Part Number
376 nm 384 nm 394 nm 404 nm 412.2 nm 423.6 nm 434.7 nm 443.6 nm 455 nm 468 nm478 nm	> 80% @ 376 nm > 80% @ 384 nm > 80% @ 394 nm > 80% @ 404 nm > 90% @ 412.2 nm > 90% @ 423.6 nm > 90% @ 434.7 nm > 90% @ 443.6 nm > 90% @ 455 nm > 90% @ 468 nm > 90% @ 478 nm	25 mm x 5.0 mm	3.5 mm	FF01-CH2O-25

BrightLine® Single-Edge Dichroic Beamsplitters

Single-Edge General Purpose Dichroic Beamsplitters: Polarization-Insensitive; for Use at 45°

Most beamsplitters are long-wave-pass (LWP) filters (reflect shorter wavelengths and transmit longer wavelengths). Semrock offers a wide range of polarization-insensitive dichroic beamsplitters, which exhibit steep edges with very high reflection and transmission bands while maintaining low ripple. More complete reflection and transmission mean less stray light, for a darker background and improved signal-to-noise ratio. These filters are optimized for fluorescence microscopes and instrumentation and may also be used for a variety of other applications that require wavelength-based beam combining and separation. All Semrock filters are made with our reliable hard-coating technology and use high-optical-quality, ultralow autofluorescence glass substrates. These filters are excellent for epifluorescence, flow cytometry, and diverse fluorescence imaging applications.

LEARN MORE ABOUT BRIGHTLINE® SINGLE-EDGE DICHROIC BEAMSPLITTERS AT IDEX-HS.COM/SINGLE-FILTERS



BrightLine® Single-Edge Dichroic Beamsplitters

Nominal Edge Wavelength	Avg. Reflection Band	Avg. Transmission Band	Size (L x W)	Glass Thickness	Filter Part Number
310 nm	> 98% 255 - 295 nm	> 90% 315 - 600 nm	25.2 x 35.6 mm	1.05 mm	FF310-Di01-25x36
347 nm	> 97% 290 - 335 nm	> 93% 380 - 800 nm	25.2 x 35.6 mm	1.05 mm	FF347-Di01-25x36
365 nm	> 94% 290 - 360 nm	> 90% 370 - 508 nm	25.2 x 35.6 mm	1.05 mm	FF365-Di01-25x36
376 nm	> 98% 327 - 371 nm	> 93% 381 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF376-Di01-25x36
390 nm	> 95% 335 - 375 nm	> 90% 399 - 500 nm	25.2 x 35.6 mm	1.05 mm	FF390-Di01-25x36
409 nm	> 98% 397 - 404 nm	> 93% 415 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF409-Di03-25x36
414 nm	> 98% 327 - 409 nm	> 93% 420 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF414-Di01-25x36
416 nm	> 90% 360 - 407 nm	> 90% 425 - 575 nm	25.2 x 35.6 mm	1.05 mm	FF416-Di01-25x36
435 nm	> 98% 391 - 406 nm	> 90% 449 - 667 nm	25.2 x 35.6 mm	1.05 mm	FF435-Di01-25x36
452 nm	> 90% 423 - 445 nm	> 90% 460 - 610 nm	25.2 x 35.6 mm	1.05 mm	FF452-Di01-25x36
458 nm	> 98% 350 - 450 nm	> 93% 467 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF458-Di02-25x36
470 nm	> 98% 350 - 462.5 nm	> 93% 477 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF470-Di01-25x36
482 nm	> 90% 415 - 470 nm	> 90% 490 - 720 nm	25.2 x 35.6 mm	1.05 mm	FF482-Di01-25x36
495 nm	> 98% 350 - 488 nm	> 93% 502 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF495-Di03-25x36
496 nm	> 98% 512 - 900 nm	> 93% 400 - 480 nm	25.2 x 35.6 mm	2.0 mm	FF496-SDi01-25x36x2.0
497 nm	> 90% 452 - 490 nm	> 90% 505 - 800 nm	25.2 x 35.6 mm	1.05 mm	FF497-Di01-25x36

BrightLine® Single-Edge Dichroic Beamsplitters (Continued)

BrightLine® Single-Edge Dichroic Beamsplitters

Nominal Edge Wavelength	Avg. Reflection Band	Avg. Transmission Band	Size (L x W)	Glass Thickness	Filter Part Number
499 nm	> 90% 470 - 490 nm	> 90% 508 - 675 nm	25.2 x 35.6 mm	1.05 mm	FF499-Di01-25x36
500 nm	> 98% 485 - 491 nm	> 90% 510 - 825 nm	25.2 x 35.6 mm	1.05 mm	FF500-Di01-25x36
505 nm	> 98% 513 - 725 nm	> 90% 446 - 500 nm	25.2 x 35.6 mm	1.05 mm	FF505-SDi01-25x36
506 nm	> 98% 350 - 500 nm	> 93% 513 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF506-Di03-25x36
509 nm	> 94% 290 - 502 nm	> 90% 513 - 830 nm	25.2 x 35.6 mm	1.05 mm	FF509-Di01-25x36
510 nm	> 98% 397 - 488 nm	> 93% 515 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF510-Di02-25x36
516 nm	> 90% 490 - 510 nm	> 90% 520 - 700 nm	25.2 x 35.6 mm	1.05 mm	FF516-Di01-25x36
518 nm	> 98% 400 - 512 nm	> 93% 523 - 690 nm	25.2 x 35.6 mm	1.05 mm	FF518-Di01-25x36
520 nm	> 98% 350 - 512 nm	> 93% 528 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF520-Di02-25x36
526 nm	> 98% 350 - 519.5 nm	> 93% 532 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF526-Di01-25x36
535 nm	> 90% 539 - 840 nm	> 95% 524 - 532 nm	25.2 x 35.6 mm	1.05 mm	FF535-SDi01-25x36
552 nm	> 98% 350 - 544 nm	> 93% 558 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF552-Di02-25x36
555 nm	> 98% 493 - 548 nm	> 90% 562 - 745 nm	25.2 x 35.6 mm	1.05 mm	FF555-Di03-25x36
556 nm	> 97% 561 - 950 nm	> 93% 460 - 552 nm	25.2 x 35.6 mm	1.05 mm	FF556-SDi01-25x36
560 nm	> 98% 485 - 545 nm	> 90% 570 - 825 nm	25.2 x 35.6 mm	1.05 mm	FF560-Di01-25x36
562 nm	> 98% 350 - 555 nm	> 93% 569 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF562-Di03-25x36
570 nm	> 90% 525 - 556 nm	> 90% 580 - 650 nm	25.2 x 35.6 mm	1.05 mm	FF570-Di01-25x36
573 nm	> 98% 350 - 566 nm	> 93% 580 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF573-Di01-25x36
585 nm	> 90% 533 - 580 nm	> 90% 595 - 800 nm	25.2 x 35.6 mm	1.05 mm	FF585-Di01-25x36
593 nm	> 98% 350 - 585 nm	> 93% 601 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF593-Di03-25x36
596 nm	> 98% 350 - 588.6 nm	> 93% 603 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF596-Di01-25x36
605 nm	> 98% 350 - 596 nm	> 93% 612 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF605-Di02-25x36
614 nm	> 97% 635 - 700 nm	> 70% 244 - 300 nm	25.2 x 35.6 mm	2.0 mm	FF614-SDi01-25x36x2.0
624 nm	> 95% 528 - 610 nm	> 93% 630 - 950 nm	25.2 x 35.6 mm	2.0 mm	FF624-Di01-25x36x2.0
625 nm	> 98% 635 - 850 nm	> 90% 400 - 620 nm	25.2 x 35.6 mm	1.05 mm	FF625-SDi01-25x36
635 nm	> 94% 507 - 622 nm	> 90% 636 - 830 nm	25.2 x 35.6 mm	1.05 mm	FF635-Di01-25x36
647 nm	> 94% 667 - 1010 nm	> 93% 360 - 640 nm	25.2 x 35.6 mm	1.05 mm	FF647-SDi01-25x36
648 nm	> 98% 461 - 629 nm	> 90% 658 - 700 nm	25.2 x 35.6 mm	1.05 mm	FF648-Di01-25x36
649 nm	> 98% 500 - 642 nm	> 90% 654 - 825 nm	25.2 x 35.6 mm	1.05 mm	FF649-Di01-25x36
650 nm	> 98% 500 - 640 nm	> 90% 660 - 825 nm	25.2 x 35.6 mm	1.05 mm	FF650-Di01-25x36

BrightLine® Single-Edge Dichroic Beamsplitters (Continued)

BrightLine® Single-Edge Dichroic Beamsplitters

Nominal Edge Wavelength	Avg. Reflection Band	Avg. Transmission Band	Size (L x W)	Glass Thickness	Filter Part Number
652 nm	> 98% 350 - 644 nm	> 93% 659.5 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF652-Di01-25x36
654 nm	> 95% 660 - 850 nm	> 93% 490 - 650 nm	25.2 x 35.6 mm	1.05 mm	FF654-SDi01-25x36
655 nm	> 98% 470 - 645 nm	> 90% 665 - 726 nm	25.2 x 35.6 mm	1.05 mm	FF655-Di01-25x36
660 nm	> 98% 350 - 651 nm	> 93% 669 - 950 nm	25.2 x 35.6 mm	1.05 mm	FF660-Di02-25x36
665 nm	See Multiphoton filter				FF665-Di02-25x36
670 nm	Short-wave-pass; See Multiphoton filters				FF670-SDi01-25x36
677 nm	> 98% 400 - 668 nm	> 90% 687 - 830 nm	25.2 x 35.6 mm	1.05 mm	FF677-Di01-25x36
685 nm	> 98% 350 - 676 nm	> 93% 695 - 939 nm	25.2 x 35.6 mm	1.05 mm	FF685-Di02-25x36
695 nm	> 98% 450 - 680 nm	> 90% 710 - 850 nm	25.2 x 35.6 mm	1.05 mm	FF695-Di01-25x36
697 nm	> 97% 705 - 900 nm	> 93% 539 - 690 nm	25.2 x 35.6 mm	1.05 mm	FF697-SDi01-25x36
700 nm	> 97% 532 - 690 nm	> 93% 705 - 800 nm	25.2 x 35.6 mm	1.05 mm	FF700-Di01-25x36
700 nm	Short-wave-pass; See Multiphoton filters				FF700-SDi01-25x36
705 nm	See Multiphoton filters				FF705-Di01-25x36
720 nm	Short-wave-pass; See Multiphoton filters				FF720-SDi01-25x36
735 nm	See Multiphoton filters				FF735-Di02-25x36
740 nm	> 98% 480 - 720 nm	> 90% 750 - 825 nm	25.2 x 35.6 mm	1.05 mm	FF740-Di01-25x36
749 nm	> 96% 710 - 1100 nm	> 93% 400 - 730 nm	25.2 x 35.6 mm	3.0 mm	FF749-SDi01-25x36x3.0
750 nm	> 96% 770 - 920 nm	> 93% 450 - 730 nm	25.2 x 35.6 mm	1.05 mm	FF750-SDi02-25x36
757 nm	> 98% 461 - 746 nm	> 93% 768 - 1100 nm	25.2 x 35.6 mm	1.05 mm	FF757-Di01-25x36
765 nm	> 95% 450 - 750 nm	> 93% 780 - 950 nm	25.2 x 35.6 mm	2.0 mm	FF765-Di01-25x36x2.0
775 nm	See Multiphoton filters				FF775-Di01-25x36
776 nm	> 98% 450 - 764 nm	> 88% 789 - 1100 nm	25.2 x 35.6 mm	1.05 mm	FF776-Di01-25x36
791 nm	> 90% 795 - 940 nm	> 90% 687 - 787 nm	25.2 x 35.6 mm	1.05 mm	FF791-SDi01-25x36
801 nm	> 98% 450 - 790 nm	> 90% 813.5 - 1100 nm	25.2 x 35.6 mm	1.05 mm	FF801-Di02-25x36
825 nm	> 95% 850 - 1650 nm	> 90% 565 - 800 nm	25.2 x 35.6 mm	2.0 mm	FF825-SDi01-25x36x2.0
872 nm	> 92% 240 - 840 nm	> 90% 903 - 1100 nm	25.2 x 35.6 mm	2.0 mm	FF872-Di01-25x36x2.0
875 nm	See Multiphoton filters				FF875-Di01-25x36
925 nm	See Multiphoton filters				FF925-Di01-25x36
930 nm	> 98% 950 - 1140 nm	> 93% 750 - 880 nm	25.2 x 35.6 mm	2.0 mm	FF930-SDi01-25x36x2.0

BrightLine® Image-Splitting Dichroic Beamsplitters

Our image-splitting dichroic beamsplitters are the industry standard, enabling simultaneous multi-color imaging applications such as FRET and real-time live-cell imaging. The spectral edges of these filters are optimized for imaging of popular fluorophore pairs, providing maximum signal throughput while maintaining minimal wavefront distortion in reflection and transmission, thereby maximizing contrast and resolution of the overall imaging system. The 1 mm version enables reflected imaged beams up to 10 mm with a transmission range to 950 nm. The 3 mm version enables reflected imaged beams up to 37 mm (when custom-sized) with a transmission range to 1200 nm.



LEARN MORE ABOUT BRIGHTLINE® IMAGE-SPLITTING DICHROIC BEAMSPLITTERS AT IDEX-HS.COM/SINGLE-FILTERS

BrightLine® Image-Splitting Dichroic Beamsplitters

Nominal Edge Wavelength	Common Fluorophore Pairs to Split	Average Reflection Band	Average Transmission Band	Size (L x W x H)	Filter Part Number
389 nm		350 - 382 nm	396 - 850 nm	25.2 x 35.6 x 1.5 mm	FF389-Di01-25x36x1.5
484 nm	DAPI/FITC (or BFP/GFP)	350 - 475 nm	492.3 - 950 nm	25.2 x 35.6 x 1.05 mm	FF484-FDi01-25x36
509 nm	CFP/YFP	350 - 500 nm	518.3 - 950 nm	25.2 x 35.6 x 1.05 mm	FF509-FDi01-25x36
538 nm	GFP/mOrange	350 - 528.4 nm	547.7 - 950 nm	25.2 x 35.6 x 1.05 mm	FF538-FDi01-25x36
560 nm	YFP/dTomato	350 - 550 nm	570.1 - 950 nm	25.2 x 35.6 x 1.05 mm	FF560-FDi01-25x36
580 nm	GFP/mCherry (or FITC/TxRed)	350 - 570 nm	590.8 - 950 nm	25.2 x 35.6 x 1.05 mm	FF580-FDi01-25x36
640 nm	Cy3/Cy5	350 - 629 nm	652 - 950 nm	25.2 x 35.6 x 1.05 mm	FF640-FDi01-25x36
662 nm	TxRed/Cy5	350 - 650 nm	673.7 - 950 nm	25.2 x 35.6 x 1.05 mm	FF662-FDi01-25x36
699 nm	iRFP670/iRFP720 or AlexaFluor647/AlexaFluor700	350 - 686 nm	712 - 1200 nm	25.2 x 35.6 x 1.05 mm	FF699-FDi01-t1-25x36
738 nm	Cy5.5/Cy7	400 - 722 nm	754 - 1200 nm	25.2 x 35.6 x 1.05 mm	FF738-FDi01-t1-25x36

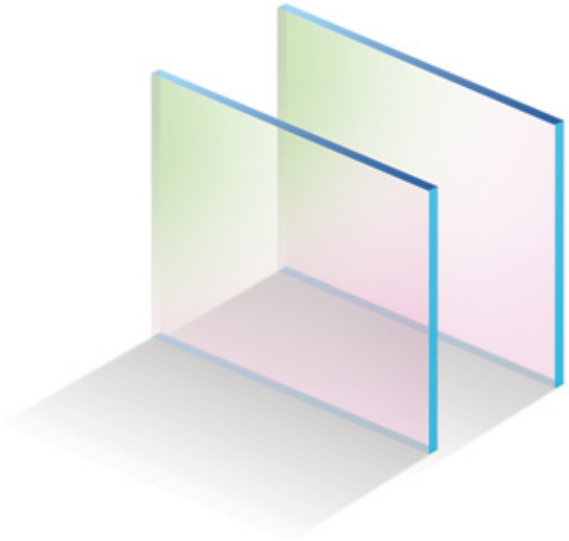
BrightLine® Image Splitting Dichroic Beamsplitters for Super-Resolution Microscopy

Nominal Edge Wavelength	Common Fluorophore Pairs to Split	Average Reflection Band	Average Transmission Band	Size (L x W x H)	Filter Part Number
484 nm	DAPI/FITC (or BFP/GFP)	350 - 475 nm	492.3 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF484-FDi02-t3-25x36
509 nm	CFP/YFP	350 - 500 nm	518.3 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF509-FDi02-t3-25x36
538 nm	GFP/mOrange	350 - 528.4 nm	547.7 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF538-FDi02-t3-25x36
560 nm	YFP/dTomato	350 - 550 nm	570.1 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF560-FDi02-t3-25x36
580 nm	GFP/mCherry (or FITC/TxRed)	350 - 570 nm	590.8 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF580-FDi02-t3-25x36
640 nm	Cy3/Cy5	350 - 629 nm	652 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF640-FDi02-t3-25x36
662 nm	TexasRed/Cy5	350 - 650 nm	673.7 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF662-FDi02-t3-25x36
699 nm	iRFP670/iRFP720 or AlexaFluor647/AlexaFluor700	350 - 686 nm	712 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF699-FDi01-t3-25x36
738 nm	Cy5.5/Cy7	400 - 722 nm	754 - 1200 nm	25.2 x 35.6 x 3.0 mm	FF738-FDi01-t3-25x36

BrightLine® Multiedge Dichroic Beamsplitters

Our BrightLine® multiedge dichroic beamsplitters are available in dual, triple, quad, and penta band designs. Optimized for general broadband excitation sources or laser lines, high-performance, multi-color fluorescence imaging is easily attainable with Semrock's BrightLine® dichroic beamsplitters.

LEARN MORE ABOUT BRIGHTLINE® MULTIEDGE DICHROIC BEAMSPLITTERS AT IDEX-HS.COM/SINGLE-FILTERS



BrightLine® Multiedge Dichroic Beamsplitters - Dual-Edge

Dual-Edge General Purpose Dichroic Beamsplitters (polarization-insensitive; for use at 45°)

Nominal Edge Wavelength	Avg. Reflection Bands	Avg. Transmission Bands	Size (L x W x H)	Filter Part Number	
403 nm 502 nm	> 97.5% 370 - 393 nm > 97.5% 466 - 495 nm	> 90% 414 - 452 nm > 90% 510 - 550 nm	25.2 x 35.6 x 1.05 mm	FF403/502-Di01-25x36	
471 nm 539 nm	> 95% 439 - 459 nm > 95% 510 - 530 nm	> 93% 473 - 495 nm > 93% 546 - 576 nm	25.2 x 35.6 x 1.05 mm	FF471/539-Di01-25x36	
493 nm 574 nm	> 95% 456 - 480 nm > 95% 541 - 565 nm	> 90% 500 - 529 nm > 90% 584 - 679 nm	25.2 x 35.6 x 1.05 mm	FF493/574-Di01-25x36	
505 nm 606 nm	> 95% 458 - 499 nm > 95% 570 - 600 nm	> 90% 509 - 541 nm > 90% 612 - 647 nm	25.2 x 35.6 x 1.05 mm	FF505/606-Di01-25x36	
545 nm 650 nm	> 95% 532.0 nm > 95% 632.8 nm	> 94% 554 - 613 nm > 94% 658 - 742 nm	25.2 x 35.6 x 1.05 mm	FF545/650-Di01-25x36	
560 nm 659 nm	> 95% 514 - 553 nm > 95% 617 - 692 nm	> 90% 564 - 591 nm > 90% 665 - 718 nm	25.2 x 35.6 x 1.05 mm	FF560/659-Di01-25x36	⊗
560 nm 659 nm	> 93% 564 - 591 nm > 93% 665 - 718 nm	> 96% 514 - 553 nm > 96% 617 - 652 nm	25.2 x 35.6 x 1.05 mm	FF560/659-Di02-25x36	

⊗ = *Obsolete product.*

BrightLine® Multiedge Dichroic Beamsplitters (Continued)

BrightLine® Multiedge Dichroic Beamsplitters - Triple-Edge

Triple-Edge General Purpose Dichroic Beamsplitters (polarization-insensitive; for use at 45°)

Nominal Edge Wavelength	Avg. Reflection Bands	Avg. Transmission Bands	Size (L x W x H)	Filter Part Number	
395 nm 495 nm 610 nm	> 95% 354 - 385 nm > 95% 465 - 483 nm > 95% 570 - 596 nm	> 93% 403 - 446 nm > 93% 502 - 552 nm > 93% 620 - 750 nm	25.2 x 35.6 x 1.05 mm	FF395/495/610-Di01-25x36	
403 nm 497 nm 574 nm	> 97.5% 370 - 393 nm > 97.5% 466 - 490 nm > 97.5% 546 - 565 nm	> 90% 414 - 450 nm > 90% 507.5 - 528 nm > 90% 584 - 645 nm	25.2 x 35.6 x 1.05 mm	FF403/497/574-Di01-25x36	
409 nm 493 nm 596 nm	> 95% 350 - 404 nm > 95% 461 - 487.5 nm > 95% 559.5 - 589.5 nm	> 93% 414 - 450 nm > 93% 499.5 - 546 nm > 93% 604 - 850 nm	25.2 x 35.6 x 1.05 mm	FF409/493/596-Di02-25x36	
421 nm 491 nm 572 nm	> 95% 350 - 413 nm > 95% 471 - 483 nm > 95% 541 - 560 nm	> 93% 426 - 456 nm > 93% 498 - 524 nm > 93% 584 - 680 nm	25.2 x 35.6 x 1.05 mm	FF421/491/572-Di01-25x36	
436 nm 514 nm 604 nm	> 97.5% 394 - 414 nm > 97.5% 484 - 504 nm > 97.5% 566 - 586 nm	> 90% 446 - 468 nm > 90% 520 - 540 nm > 90% 614 - 642 nm	25.2 x 35.6 x 1.05 mm	FF436/514/604-Di01-25x36	
444 nm 520 nm 590 nm	> 98% 327 - 437 nm > 98% 494 - 512 nm > 98% 562.5 - 578.5 nm	> 90% 450 - 480 nm > 90% 527 - 547 nm > 90% 598 - 648 nm	25.2 x 35.6 x 1.05 mm	FF444/520/590-Di01-25x36	
444 nm 521 nm 608 nm	> 95% 420 - 430 nm > 95% 496 - 510 nm > 95% 579 - 596 nm	> 90% 451 - 480.5 nm > 90% 530 - 561 nm > 90% 618 - 664 nm	25.2 x 35.6 x 1.05 mm	FF444/521/608-Di01-25x36	
459 nm 526 nm 596 nm	> 95% 350 - 450 nm > 95% 497.6 - 519.5 nm > 95% 567.4 - 588.6 nm	> 93% 464 - 486 nm > 93% 532 - 554 nm > 93% 603 - 800 nm	25.2 x 35.6 x 1.05 mm	FF459/526/596-Di01-25x36	
468 nm 526 nm 596 nm	> 95% 350 - 462.5 nm > 95% 506.5 - 519.5 nm > 95% 567.5 - 588.6 nm	> 93% 474 - 494.5 nm > 93% 532 - 554 nm > 93% 603 - 800 nm	25.2 x 35.6 x 1.05 mm	FF468/526/596-Di01-25x36	⊗

⊗ = *Obsolete product.*

BrightLine® Multiedge Dichroic Beamsplitters (Continued)

BrightLine® Multiedge Dichroic Beamsplitters - Quadruple-Edge

Quadruple-Edge Dichroic Beamsplitters (polarization-insensitive; for use at 45°)

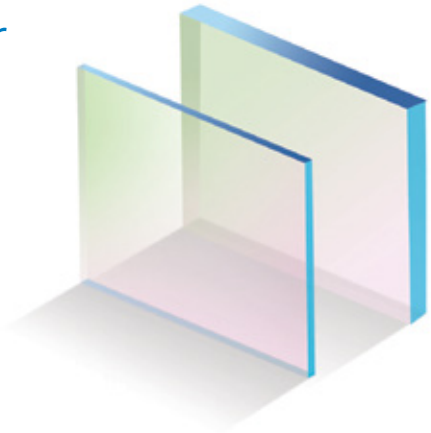
Nominal Edge Wavelength	Avg. Reflection Bands	Avg. Transmission Bands	Size (L x W x H)	Filter Part Number
409 nm 493 nm 596 nm 652 nm	> 95% 350 - 404 nm > 95% 461 - 487.5 nm > 95% 543 - 566 nm > 95% 626 - 644 nm	> 93% 414 - 450 nm > 93% 499.5 - 530 nm > 93% 580 - 611 nm > 93% 659.5 - 850 nm	25.2 x 35.6 x 1.05 mm	FF409/493/573/652-Di02-25x36
410 nm 504 nm 582 nm 669 nm	> 95% 381.5 - 392.5 nm > 95% 475 - 495 nm > 95% 547 - 572 nm > 95% 643 - 656 nm	> 90% 420 - 460 nm > 90% 510 - 531 nm > 90% 589.5 - 623.5 nm > 90% 677 - 722 nm	25.2 x 35.6 x 1.05 mm	FF410/504/582/669-Di01-25x36

BrightLine® Multiedge Dichroic Beamsplitters - Penta-Edge

Penta-Edge Dichroic Beamsplitter (polarization-insensitive; for use at 45°)

Nominal Edge Wavelength	Avg. Reflection Bands	Avg. Transmission Bands	Size (L x W x H)	Filter Part Number
408 nm 504 nm 581 nm 667 nm 762 nm	> 95% 381.5 - 392.5 nm > 95% 475 - 495 nm > 95% 547 - 572 nm > 95% 643 - 656 nm > 95% 733.5 - 746.5 nm	> 90% 420 - 460 nm > 90% 510 - 531 nm > 90% 589.5 - 623.5 nm > 90% 677 - 711.5 nm > 90% 768.5 - 849.5 nm	25.2 x 35.6 x 1.05 mm	FF408/504/581/667/762-Di01-25x36
409 nm 493 nm 596 nm 652 nm 759 nm	> 95% 350 - 404 nm > 95% 461 - 487.5 nm > 95% 543 - 566 nm > 95% 626 - 644 nm > 95% 721 - 749 nm	> 93% 414 - 450 nm > 93% 499.5 - 530 nm > 93% 580 - 611 nm > 93% 661 - 701 nm > 93% 765.5 - 849.5 nm	25.2 x 35.6 x 1.05 mm	FF409/493/573/652/759-Di01-25x36
421 nm 491 nm 567 nm 659 nm 776 nm	> 95% 369 - 413 nm > 95% 471 - 483 nm > 95% 541 - 557 nm > 95% 630 - 647 nm > 95% 725 - 757 nm	> 93% 426 - 456 nm > 93% 498 - 524 nm > 93% 574 - 611 nm > 93% 667 - 701 nm > 93% 784 - 850 nm	25.2 x 35.6 x 1.05 mm	FF421/491/567/659/776-Di01-25x36

BrightLine® Super-Resolution / TIRF Laser Dichroic Beamsplitters



Semrock sets the industry standard for Super-resolution / TIRF microscopy dichroic beamsplitters compatible with popular microscopy filter cubes, improving the performance of laser- based confocal and TIRF illumination systems. They are also ideal for reflecting imaging beams in conventional structured illumination techniques and in patterned illumination systems for localized photo-activation. Our dichroic beamsplitters enable the use of much larger-diameter illumination beams, offering researchers and instrument developers greater flexibility in system design with no compromise to overall performance.

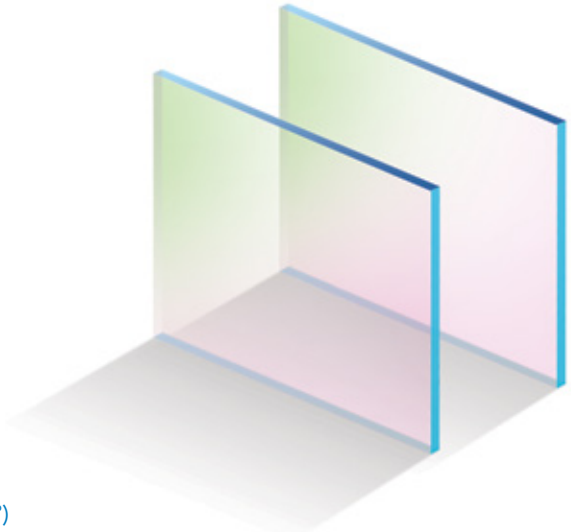
LEARN MORE ABOUT BRIGHTLINE® SUPER-RESOLUTION / TIRF LASER DICHROIC BEAMSPLITTERS AT IDEX-HS.COM/SINGLE-FILTERS

BrightLine® Super-Resolution / TIRF Laser Dichroic Beamsplitters

Nominal Edge Wavelength	Laser Wavelengths	Extended Avg. Reflection Band	Absolute Reflection Band	Avg. Transmission Band	1 mm Thickness Filter Part Number	3 mm Thickness Filter Part Number
414 nm	375.0 ± 5 nm 405.0 ± 5 nm	330.0 - 372.0 nm	372.0 - 410.0 nm	417.4 - 1200.0 nm	Di03-R405-t1-25x36	Di03-R405-t3-25x36
465 nm	440.0 + 3/-1 nm 442.0 nm 457.9 nm	330.0 - 439.0 nm	439.0 - 457.9 nm	466.1 - 1200.0 nm	Di03-R442-t1-25x36	Di03-R442-t3-25x36
484 nm	457.9 nm 473.0 ± 5 nm	330.0 - 457.9 nm	457.9 - 478.0 nm	486.4 - 1200.0 nm	Di03-R473-t1-25x36	Di03-R473-t3-25x36
496 nm	473.0 ± 2 nm 488.0 +3/-2 nm	330.0 - 471.0 nm	471.0 - 491.0 nm	499.8 - 1200.0 nm	Di03-R488-t1-25x36	Di03-R488-t3-25x36
520 nm	505.0 nm 514.5 nm 515.0 nm	330.0 - 505.0 nm	505.0 - 515.0 nm	524.3 - 1200.0 nm	Di03-R514-t1-25x36	Di03-R514-t3-25x36
538 nm	514.5 nm 532.0 nm	330.0 - 514.0 nm	514.0 - 532.0 nm	541.6 - 1200.0 nm	Di03-R532-t1-25x36	Di03-R532-t3-25x36
576 nm	561.4 nm 568.2 nm	330.0 - 554.0 nm	554.0 - 568.2 nm	578.4 - 1200.0 nm	Di03-R561-t1-25x36	Di03-R561-t3-25x36
599 nm	593.5 nm 594.1 nm 594.0 ± 0.3 nm	330.0 - 593.5 nm	593.5 - 594.3 nm	605.0 - 1200.0 nm	Di03-R594-t1-25x36	Di03-R594-t3-25x36
656 nm	632.8 nm 635.0 +7/-0.5 nm 647.1 nm	330.0 - 632.8 nm	632.8 - 647.1 nm	658.8 - 1200.0 nm	Di03-R635-t1-25x36	Di03-R635-t3-25x36
672.9 nm	647.1 nm 658.0 nm 660.0 ± 5 nm	330.0 - 647.1 nm	647.1 - 665.0 nm	677.0 - 1200.0 nm	Di03-R660-t1-25x36	Di03-R660-t3-25x36
698.9 nm	671.0 nm 676.0 nm 685.0 ± 5 nm	330.0 - 671.0 nm	671.0 - 690.0 nm	702.5 - 1200.0 nm	Di03-R685-t1-25x36	Di03-R685-t3-25x36
800 nm	785.0 ± 5 nm	330.0 - 780.0 nm	780.0 - 790.0 nm	804.3 - 1600.0 nm	Di03-R785-t1-25x36	Di03-R785-t3-25x36
499 nm 575 nm	473 ± 2, 488 +3 /-2 559 +5/-4, 561.4, 568.2	330.0 - 471.0 nm	471.0 - 491.0 nm 559.0 - 568.2 nm	503.3 - 543.0 nm 582.4 - 1200.0 nm	Di03-R488/561-t1-25x36	Di03-R488/561-t3-25x36
419 nm 498 nm 542 nm 659 nm	375 + 5, 405 + 5 473 +2/-0, 488 +3 /-2 532 632.8, 635 +7/-0, 647.1	330.0 - 370.0 nm	370.0 - 410.0 nm 473.0 - 491.0 nm 530.5 - 533.5 nm 632.8 - 647.1 nm	426.0 - 462.0 nm 502.5 - 518.5 nm 550.0 - 613.0 nm 663.0 - 1200.0 nm	Di03-R405/ 488/532/ 635-t1-25x36	Di03-R405/ 488/532/ 635-t3-25x36
419 nm 498 nm 575 nm 655 nm	375 + 5, 405 + 5 473 +2/-0, 488 +3 /-2 559 +5/-0, 568.2 632.8, 635 +7/-0, 647.1	330.0 - 370.0 nm	370.0 - 410.0 nm 473.0 - 491.0 nm 559.0 - 568.2 nm 632.8 - 647.1 nm	426.0 - 462.0 nm 502.5 - 543.5 nm 582.0 - 617.5 nm 663.0 - 1200.0 nm	Di03-R405/ 488/561/ 635-t1-25x36	Di03-R405/ 488/561/ 635-t3-25x36

BrightLine® Single-Edge Laser Dichroic Beamsplitters

BrightLine® laser dichroic beamsplitters feature extended reflection down to 350 nm, enabling photoactivation. These dichroic beamsplitters are optimized for the most popular lasers used for fluorescence imaging, including all-solid-state lasers. Reflection is guaranteed to be > 98% (s-polarization) and > 94% (average polarization) at the laser wavelengths, plus > 93% average transmission and very low ripple over extremely wide passbands out to 900 nm, 1200 nm, or even 1600 nm.



LEARN MORE ABOUT BRIGHTLINE® SINGLE-EDGE LASER DICHROIC BEAMSPLITTERS AT IDEX-HS.COM/SINGLE-FILTERS

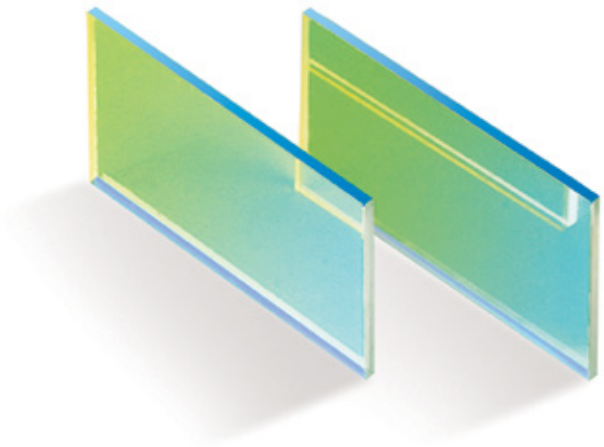
BrightLine® Single-Edge Laser Dichroic Beamsplitters

UV & IR Laser Dichroic Beamsplitters (polarization-insensitive; for use at 45°)

Nominal Edge Wavelength	Laser Wavelengths	Extended Avg. Reflection Band	Absolute Reflection Band	Avg. Transmission Band	Size (mm) (L x W x H)	Filter Part Number
273 nm	266.0 nm	230.0 - 245.0 nm	245.0 - 266.0 nm	277.0 - 1200.0 nm	25.2 x 35.6 x 1.05	Di01-R266-25x36
331 nm	325.0 nm	230.0 - 300.0 nm	300.0 - 325.0 nm	336.0 - 1200.0 nm	25.2 x 35.6 x 1.05	Di01-R325-25x36
363 nm	355.0 nm	230.0 - 325.0 nm	325.0 - 355.0 nm	367.0 - 1200.0 nm	25.2 x 35.6 x 1.05	Di01-R355-25x36
414 nm	375.0 ± 5 nm 405.0 ± 5 nm 440.0 +3/-1nm	350.0 - 372.0 nm	372.0 - 410.0 nm	417.4 - 900.0 nm	25.2 x 35.6 x 1.05	Di02-R405-25x36
462 nm	442.0 nm 457.9 nm	350.0 - 439.0 nm	439.0 - 457.9 nm	466.1 - 900.0 nm	25.2 x 35.6 x 1.05	Di02-R442-25x36
496 nm	473.0 ± 2 nm 488.0 +3/-2 nm	350.0 - 471.0 nm	471.0 - 491.0 nm	499.8 - 900.0 nm	25.2 x 35.6 x 1.05	Di02-R488-25x36
520 nm	505.0 nm 514.5 nm 515.0 nm	350.0 - 505.0 nm	505.0 - 515.0 nm	524.3 - 1200.0 nm	25.2 x 35.6 x 1.05	Di02-R514-25x36
536.8 nm	514.5 nm 532.0 nm	350.0 - 514.0 nm	514.0 - 532.0 nm	541.6 - 1200.0 nm	25.2 x 35.6 x 1.05	Di02-R532-25x36
573 nm	561.4 nm 568.2 nm	350.0 - 554.0 nm	554.0 - 568.2 nm	578.4 - 1200.0 nm	25.2 x 35.6 x 1.05	Di02-R561-25x36
599.5 nm	593.5 nm 594.1 nm 594.0 ± 0.3 nm	350.0 - 593.5 nm	593.5 - 594.3 nm	605.0 - 1200.0 nm	25.2 x 35.6 x 1.05	Di02-R594-25x36
653 nm	632.8 nm 635.0 +7/-3 nm 647.1 nm	350.0 - 632.8 nm	632.8 - 647.1 nm	658.8 - 1200.0 nm	25.2 x 35.6 x 1.05	Di02-R635-25x36
800 nm	785 ± 5 nm 785.0 ± 5 nm	350.0 - 780.0 nm	780.0 - 790.0 nm	804.3 - 1200.0 nm	25.2 x 35.6 x 1.05	Di02-R785-25x36
840 nm	808.0 ± 2 nm 828.0 nm 840.0 nm	350.0 - 780.0 nm	780.0 - 830.0 nm	845.0 - 1600.0 nm	25.2 x 35.6 x 1.05	Di02-R830-25x36
993 nm	976.0 nm 980.0 nm 1030.0 nm	350.0 - 970.0 nm	970.0 - 980.0 nm	998.0 - 1600.0 nm	25.2 x 35.6 x 1.05	Di02-R980-25x36
1078 nm	1047 nm 1064.0 nm	350.0 - 1030.0 nm	1030.0 - 1064.0 nm	1083.2 - 1600.0 nm	25.2 x 35.6 x 1.05	Di02-R1064-25x36

BrightLine® Laser Multiedge Dichroic Beamsplitters

Optimized for the most popular lasers used for fluorescence imaging, including all-solid-state lasers that are replacing older gas-laser technology. Laser Multiedge Dichroic Beamsplitters offer exceptionally high reflection at the laser wavelengths, combined with very steep transitions from high reflection to high transmission (< 2.5% of the longest laser wavelength). They also offer sufficient flatness for laser applications.



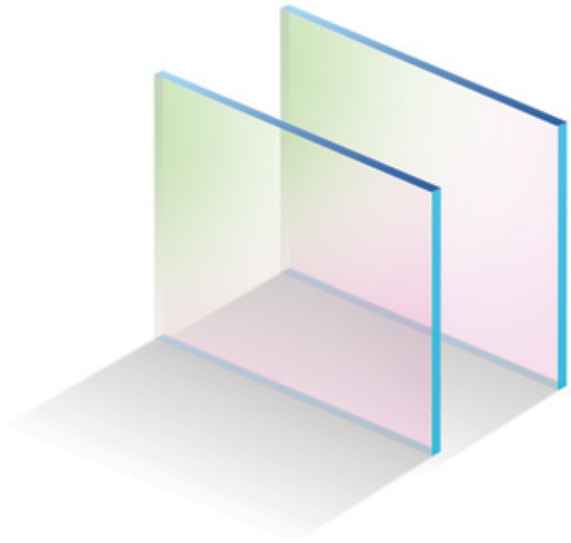
LEARN MORE ABOUT BRIGHTLINE® LASER MULTIEDGE DICHROIC BEAMSPLITTERS AT IDEX-HS.COM/SINGLE-FILTERS

BrightLine® Laser Multiedge Dichroic Beamsplitters

Nominal Edge Wavelength	Laser Wavelengths (nm)	Absolute Reflection Band (nm)	Average Transmission Band (nm)	Size (mm) (L x W x H)	Filter Part Number
499 nm	473 ± 2, 488 +3 /-2	> 94% 471.0 - 491.0	> 93% 503.3 - 543	25.2 x 35.6 x 1.05	Di01-R488/561-25x36
575 nm	559 +5/-0, 561.4, 568.2	> 94% 559.0 - 568.2	> 93% 582.4 - 800		
420 nm	375 ± 3, 405 ± 5	> 94% 370.0 - 410.0	> 93% 429.5 - 462.0	25.2 x 35.6 x 1.05	Di01-R405/488/594-25x36
497 nm	473 +2/-0, 488 +3/-2	> 94% 473.0 - 491.0	> 93% 502.5 - 574.5		
602 nm	593.5, 594.1, 594 ± 0.3	> 94% 588.3 - 594.3	> 93% 612.0 - 800.0		
422 nm	375 ± 3, 405 ± 5	> 94% 370.0 - 410.0	> 93% 429.5 - 462	25.2 x 35.6 x 1.05	Di01-R405/488/532/635-25x36
498 nm	473+ 2/-0, 488 +3-2	> 94% 473.0 - 491.0	> 93% 502.5 - 518.5		
542 nm	532	> 94% 530.5 - 533.5	> 93% 550 - 613		
656 nm	632.8, 635 +7/-0, 647.1	> 94% 632.8 - 647.1	> 93% 663 - 800		
497 nm	473 +2 /-2, 488 +3 /-2	> 94% 471.0 - 491.0	> 93% 503.5 - 526.5	25.2 x 35.6 x 1.05	Di01-R488/543/635-25x36
552 nm	543 ± 1	> 94% 541.5 - 544.5	> 93% 560.0 - 615.5		
656 nm	632.8, 635 +7/-0, 647.1	> 94% 632.8 - 647.1	> 93% 665.5 - 800.0		
415.9 nm	375 & 405	> 94% 370 - 410	> 93% 421 - 469	25.2 mm x 35.6 mm x 1.05 mm	Di01-R405/488/555/640-25x36
500.9 nm	488	> 94% 483 - 493	> 93% 506.5 - 537		
573.7 nm	555 & 561	> 94% 550 - 565	> 93% 577 - 616		
658.6 nm	635 & 640	> 94% 630 - 645	> 93% 662 - 1100		
426.3 nm	375 & 405	> 94% 370 - 410	> 93% 429.5 - 462	25.2 mm x 35.6 mm x 1.05 mm	Di01-R405/488/561/635-25x36
498.3 nm	488	> 94% 473 - 491	> 93% 502.5 - 544.5		
575.4 nm	558, 561 & 586	> 94% 559 - 568.2	> 93% 582 - 617.5		
655.3 nm	632.8, 635 & 647.1	> 94% 632.8 - 647.1	> 93% 663 - 800		
499 nm	473 & 488	> 94% 471 - 491	> 93% 503 - 528.5	25.2 mm x 35.6 mm x 1.05 mm	Di01-R488/543/594-25x36
552 nm	543.5	> 94% 541.5 - 544.5	> 93% 558 - 574		
603 nm	593.5, 594.0 & 594.1	> 94% 588 - 594.5	> 93% 609 - 800		

StopLine® Notch Dichroic Beamsplitters

Our single-edge StopLine® notch dichroics are designed for a 45-degree angle of incidence and will reflect only the incident laser source, while allowing wavelengths above and below the notch to transmit. Low ripple in the transmission band ensures consistent and stable signal. These notch dichroics were designed specifically for Coherent Anti-Stokes Raman Spectroscopy (CARS) applications. The 1064 nm StopLine notch is also suitable for laser tweezing/trapping applications, reflecting only the trapping laser and allowing the fluorescence/bright-field wavelengths to transmit.



LEARN MORE ABOUT STOPTLINE® NOTCH DICHROIC BEAMSPLITTERS AT IDEX-HS.COM/SINGLE-FILTERS

StopLine® Notch Dichroic Beamsplitters

Laser Wavelength	Reflection Value & Wavelength	Avg. Transmission Bands	Size (mm) (L x W x H)	Filter Part Number
405 nm	> 98% 405 nm	> 90% 350 - 386 nm & 434 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-405-25x36
473 nm	> 98% 473 nm	> 90% 350 - 451 nm & 507 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-473-25x36
488 nm	> 98% 488 nm	> 90% 350 - 465 nm & 523 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-488-25x36
532 nm	> 98% 532 nm	> 90% 350 - 507 nm & 570 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-532-25x36
632.8 nm	> 98% 632.8 nm	> 90% 350 - 603 nm & 678 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-633-25x36
785 nm	> 98% 785 nm	> 90% 350 - 749 nm & 841 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-785-25x36
1040 nm 1041 nm	> 98% 1040 nm	> 90% 350 - 992 nm & 1114 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-1040-25x36
1064 nm	> 98% 1064 nm	> 90% 350 - 1015 nm & 1140 - 1600 nm	25.2 x 35.6 x 1.05	NFD01-1064-25x36

LaserMUX™ Beam Combining Filters

LaserMUX™ filters are designed to efficiently combine or separate multiple laser beams at a 45-degree angle of incidence. These dichroic laser beam combiners are optimized to multiplex (MUX) popular laser lines, and can also be used in reverse to demultiplex (DEMUX). The ultra-low autofluorescence filters are ideally suited for OEM multi-laser fluorescence imaging and measurement applications, including laser microscopy and flow cytometry, as well as for myriad end-user applications in a laboratory environment. With high reflection and transmission performance at popular laser lines, these filters allow combining multiple different laser beams with exceptionally low loss. LaserMUX™ filters are hard-coated and come in an industry-standard 25 mm diameter x 3.5 mm thick black anodized aluminum ring with a generous 22 mm Clear Aperture. Semrock also stocks a wide variety of other single-edge dichroic beamsplitters and multiedge dichroic beamsplitters.



LEARN MORE ABOUT LASERMUX™ BEAM COMBINING FILTERS AT IDEX-HS.COM/SINGLE-FILTERS

LaserMUX™ Beam Combining Filters

Reflected Laser Wavelengths	Reflection Band	Transmission Laser Wavelengths	Passband	Size (Diameter x Thickness)	Filter Part Number
375 ± 3 nm 405 +10/-5 nm	372.0 nm - 415.0 nm	440 +3/-1, 457.9, 473 +5/-0, 488 +3/-2, 514.5, 515, 532, 543.5, 561.4, 568.2, 594.1, 632.8, 635 +7/-0, 647.1 nm	439.0 nm - 647.1 nm	25 mm x 3.5 mm	LM01-427-25
440 +3/-1 nm 457.9 nm	439.0 nm - 457.9 nm	473 +5/-0, 488 +3/-2, 514.5, 515, 532, 543.5, 561.4, 568.2, 594.1, 632.8, 635 +7/-0, 647.1 nm	473.0 nm - 647.1 nm	25 mm x 3.5 mm	LM01-466-25
457.9 nm 473 nm	457.9 nm - 473.0 nm	488 +3/-0, 514.5, 515, 532, 543.5, 561.4, 568.2, 632.8, 635 +7/-0, 647.1 nm	488.0 nm - 647.1 nm	25 mm x 3.5 mm	LM01-480-25
473 +5/-0 nm 488 +3/-2 nm 1064.2 nm	473.0 nm - 491.0 nm	514.5, 515, 532, 543.5, 561.4, 568.2, 594.1, 632.8, 635 +7/-0, 647.1 nm	514.5 nm - 647.1 nm	25 mm x 3.5 mm	LM01-503-25
514.5 nm 515 nm 532 nm 543.5 nm	514.5 nm - 543.5 nm	561.4, 568.2, 594.1, 632.8, 635 +7/-0, 647.1, 671, 676.4, 785 ± 5 nm	561.4 nm - 790.0 nm	25 mm x 3.5 mm	LM01-552-25
561.4 nm 568.2 nm 594.1 nm	561.4 nm - 594.1 nm	632.8, 635 +7/-0, 647.1, 671, 676.4, 785 ± 5 nm	632.8 nm - 790.0 nm	25 mm x 3.5 mm	LM01-613-25
632.8 nm 635 +7/-0 nm 647.1 nm	632.8 nm - 647.1 nm	671, 676.4, 785 ± 5 nm	671.0 nm - 790.0 nm	25 mm x 3.5 mm	LM01-659-25

Filters for Yokogawa CSU Confocal Scanners

Semrock offers fluorescence filters that enable you to achieve superior performance from your real-time confocal microscope system based on the Yokogawa CSU scanner. Like all BrightLine® filters, they are made exclusively with hard, ion-beam-sputtered coatings to provide unsurpassed brightness and durability. These filters are compatible with all scan head system configurations, regardless of the microscope, camera, and software platforms you have chosen.



Dichroic Beamsplitters for the Yokogawa CSU confocal scanners

These beamsplitters transmit the excitation laser light and reflect the fluorescence signal from the sample. Because the filters are precisely positioned between the spinning microlens disk and the pinhole array disk, they have been manufactured to exacting physical and spectral tolerances. Dichroic installation should be performed by Yokogawa-authorized personnel.

LEARN MORE ABOUT FILTERS FOR YOKOGAWA CSU CONFOCAL SCANNERS AT IDEX-HS.COM/INFO-YCSU

Filters for Yokogawa CSU Confocal Scanners

CSU-X1 filters support CSU22 and CSU-X1 scanheads.

Transmitted Laser Wavelengths	Reflection Bands	Filter Part Number
405±5 nm 488 nm 561 nm	> 95% 422 - 473 nm > 95% 503 - 544 nm > 95% 578 - 750 nm	Di01-T405/488/561-13x15x0.5
405 nm 488 nm 564 +4/-3 nm 640 +7/-2 nm	> 95% 422 - 473 nm > 95% 503 - 545 nm > 95% 586 - 620 nm > 95% 665 - 750 nm	Di01-T405/488/568/647-13x15x0.5

Emission Filters for Yokogawa CSU Confocal Scanners

These filters mount outside the CSU head in a filter wheel, and provide the utmost in transmission of the desired fluorescence signal while blocking the undesired scattered laser light and autofluorescence.

Blocked Laser Wavelengths	Transmission Bands	Size	Filter Part Number
405 nm 488 nm 564 +4/-3 nm	> 90% 503 - 546 nm > 90% 583 - 700 nm	25.0 x 3.5 mm	Em01-R488/568-25

See spectra graphs and ASCII data for these filter sets at www.idex-hs.com/semrock

TECHNICAL NOTE

BrightLine® Multiband Fluorescence Sets: Multiband Filter Set Configurations

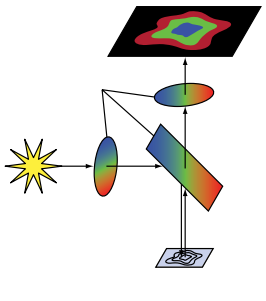
The ability to label multiple, distinct objects of interest in a single sample greatly enhances the power of fluorescence imaging. One way to achieve high-quality images of such samples has been to take multiple photographs while switching single-band filter cubes between photographs, and then later to combine these photographs electronically. Limitations to this approach historically included "pixel shift" among the multiple monochrome images, and the speed with which a complete multicolor image could be captured. Semrock solved the problem of "pixel shift" with its BrightLine ZERO™ technology, and the single-band filter cube approach remains the best technique for achieving images with the highest contrast and lowest bleedthrough possible. But with the increasing demand for high-speed imaging, especially for live-cell real-time analysis using fluorescent protein labels, there is a need for an alternative to the single-band filter cube approach that does not sacrifice too much image fidelity. Semrock's advanced multiband optical filter technology brings simultaneous multicolor imaging to a new level.

There are three types of multiband filter sets for simultaneous multicolor imaging. The "full multiband" configuration uses all multiband filters – exciter, emitter, and dichroic beamsplitter – and is ideal for direct visualization, such as locating areas of interest on a sample. This approach is quick and easy to implement, and is compatible with all standard fluorescence microscopes. However, it requires a color camera for electronic imaging and cannot eliminate fluorophore bleedthrough. The "Pinkel" configuration uses single-band exciters in a filter wheel with multiband emitter and dichroic filters. It offers an economical way to achieve very high-speed, high-contrast, simultaneous multi-color imaging. This approach is based on a monochrome CCD camera, which is less expensive and offers better resolution and noise performance than color cameras. While bleedthrough is reduced relative to the full multiband approach, some bleedthrough is still possible since all emission bands are imaged simultaneously. The "Sedat" configuration uses single-band exciters and single-band emitters in synchronized filter wheels, with a multiband dichroic beamsplitter. This approach provides the best image fidelity for high-speed simultaneous multi-color imaging, though it requires a larger investment in system hardware.

In fact, Semrock is your only source of "full multiband" quadband filter sets and the unique penta "Pinkel" and "Sedat" set.

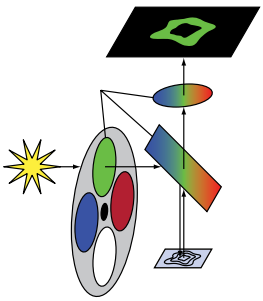
"Full Multiband" Configuration:

Multiband exciter, multiband emitter, and multiband dichroic.



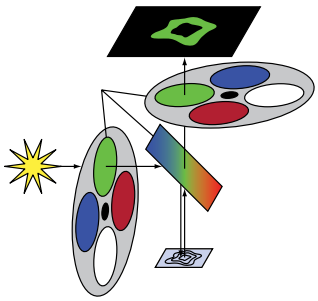
"Pinkel" Configuration:

Multiband exciter, multiband dichroic, and single-band exciters.



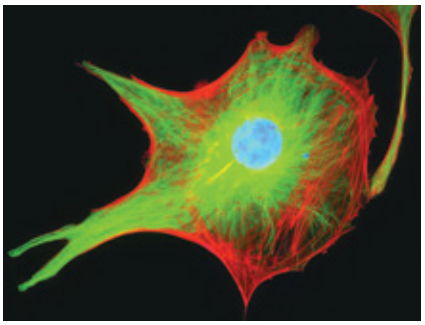
"Sedat" Configuration:

Multiband dichroic, single-band exciters, and single-band emitters



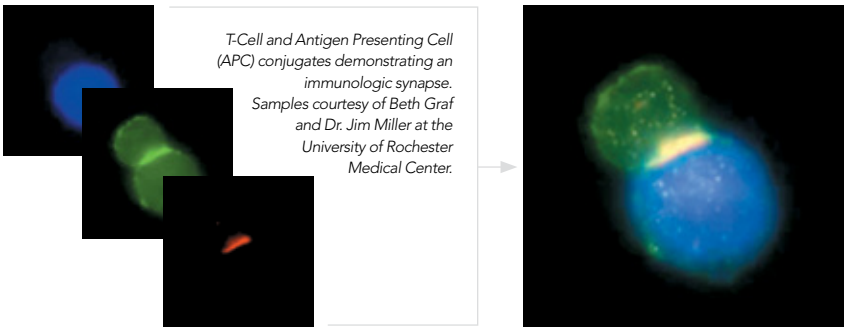
"Full Multiband" Image:

Multi-color image captured with a color CCD camera.



"Pinkel" and "Sedat" Composite Image

Single-color images are combined electronically to produce one high-fidelity, multi-color image



T-Cell and Antigen Presenting Cell (APC) conjugates demonstrating an immunologic synapse. Samples courtesy of Beth Graf and Dr. Jim Miller at the University of Rochester Medical Center.

TECHNICAL NOTE

BrightLine® Super-resolution / TIRF Laser Dichroic Beamsplitters: Choosing Dichroic Beamsplitters with Flatness/ RWE Appropriate to the Microscopy Method

Wavefront distortion can degrade image quality by reducing contrast or compromising resolution. In several microscopy applications, reducing wavefront distortion is critical to achieving the microscopy method. Specifying and selecting optical filters that minimize wavefront aberration is important to maximize or enable optical system performance. This article elucidates how to select optical filters for high performance microscopy, and provides guidance on choosing Semrock catalog filters for wavefront distortion performance required for applications.

Both standard and advanced microscopy methods require certain minimum standards of flatness on dichroic beamsplitters. For example, super-resolution and TIRF microscopy cannot be achieved if the flatness of the critical dichroic beamsplitters is worse than required. This Tech Note introduces the topic of how to choose Semrock dichroic beamsplitters appropriate to the microscopy method

Optical filters are generally composed of multi-layered, thin-film coatings on plane, parallel glass substrates. There is variability in substrate flatness, and, additionally, the substrate may slightly bend after coating. For transmitted light, such bending has little effect on transmitted wavefront error (TWE) other than a slight displacement of the beam axis. However, for reflected light, especially light incident at nonperpendicular angles, deviations from flatness (see Figure 1) have two effects on reflected wavefront error (RWE): (1) the focal plane may shift position, or (2) the beam may acquire optical aberrations (e.g., astigmatism).

A focal plane shift can be corrected by lens or camera adjustment in some microscopy methods, but in others this shift cannot be adjusted for and can therefore impede proper function. Also of significant concern, optical aberrations can degrade image quality, as illustrated in Figure [2], and can compromise the microscopy method. In determining suitable flatness need for a given application, the most important parameter is often the diameter of the beam striking the dichroic beamsplitter surface. Table 2 shows the Semrock product best suited to the application, for maximum diameter values. For more specific information, and for other beam diameter value and microscopy examples, our Tech Note on this topic provides additional information on RWE, TWE, and microscopy methods, as well as guidance from a system designer's perspective.

Because of potential degradation of imaging quality, it is important to determine when the flatness of dichroic beamsplitter is critical to a microscopy method. Table 1 lists examples of popular microscopy techniques in which it is critical to have dichroics of high flatness. As noted in this table, high flatness requirements can apply to both the illumination (excitation) and the detection (emission) light paths.

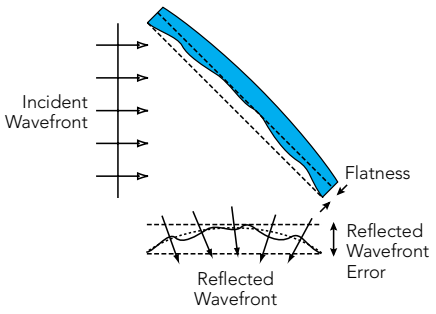


Figure 1. For light incident at an angle upon a dichroic beamsplitter, deviations from flatness cause distortions in the reflected wavefront.

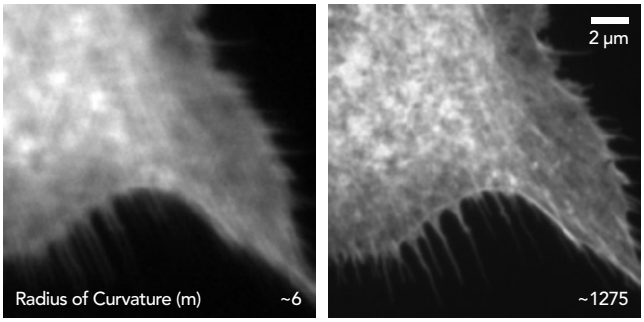


Figure 2: Image sequence demonstrating the effect of substrate bending on image quality. A lower radius of curvature means greater substrate bending. As the radius of curvature decreases (and bending increases), image quality degrades. [Images of F-actin in bovine pulmonary artery endothelial cells (FluoCells® Prepared Slide #1, Thermo Fisher Scientific, Waltham, MA, USA) as imaged on a BX41 microscope (Olympus Corporation of the Americas, Center Valley, PA, USA) with a 40×, 0.75NA objective and Retiga camera (Teledyne Photometrics)]

READ THE FULL TECH NOTE AT
IDEX-HS.COM/DICHROIC-TECH-NOTE

Microscopy Technique	Flatness Need in a Reflected Excitation Beam	Flatness Need in a Reflected Emission Beam
Widefield Fluorescence Microscopy	Non-critical	Critical
Total Internal Reflection Fluorescence (TIRF) Microscopy	Critical	Critical
Stochastic Switching (PALM, STORM, etc.)	Critical	Critical
Stimulated Emission Depletion (STED) – Pulsed Microscopy	Critical	Non-critical
Confocal Single-point Scanning Microscopy	Critical	Non-critical
Combining multiple laser beams	Critical	Not applicable

Table 1. A list of popular standard and advanced microscopy methods, categorized as to criticality of dependence on reflected wavefront flatness.

Conclusion

Over the past 25 years, our team has continually advanced Semrock optical filter technology to meet the evolving demands of fluorescence imaging. From the original BrightLine® family to the improved BrightLine® 2.0 and premium Avant™ families, each innovation reflects our commitment to improving brightness and contrast. Our modern design techniques and advanced coating-monitoring technology deliver steeper edges, higher transmission, and closer critical edges, while balancing performance and price point.

BrightLine® 2.0 offers broad versatility for diverse applications, while Avant™ pushes performance boundaries by narrowing the gaps between bandpass filters and steepening critical edges for short Stokes' shift fluorophores. Together, these filter sets empower researchers and instrument designers to fully leverage today's high-performance illumination and detection technologies. By combining innovation with proven reliability, Semrock filters ensure that your imaging and detection systems achieve the clarity, consistency, and confidence needed for cutting-edge science.



Power Up Your Imaging System with SearchLight™

Get instant spectral insights with our Semrock SearchLight™ tool. Search, plot, and optimize fluorophores, light sources, and filters – all in one place.

For designers and researchers in fluorescence microscopy, SearchLight™ has long been the industry-standard modeling tool for visualizing and calculating the performance of optical systems. This free, cloud-based platform allows you to plot the spectral data of filters, fluorophores, light sources, and detectors to ensure every component in your microscope works in harmony.

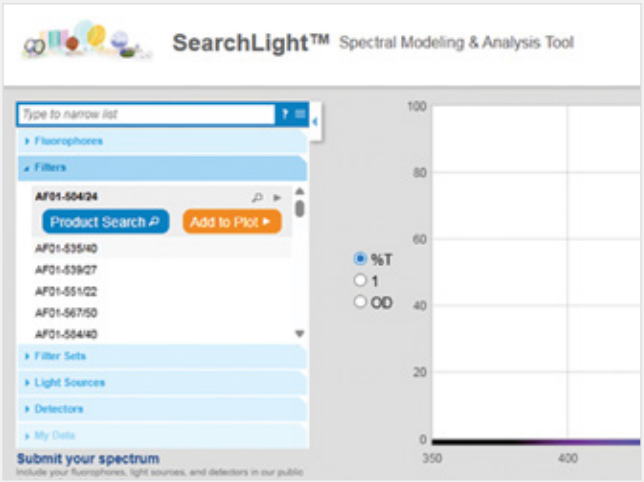
However, innovation doesn't keep office hours. Whether you're troubleshooting a system at midnight or optimizing a multi-channel experiment across different time zones, you need data-driven confidence to move your project forward.

Start Working: idex-hs.com/searchlight

To bridge the gap between theoretical concepts and functional prototypes, we've introduced two major updates to SearchLight™: a smarter **Product Search** and the **Automatic System Calculator** tool. Together, they act as a 24/7 resource, allowing you to model, search, and optimize optical systems the moment inspiration strikes.

Find the Right Match with Advanced Product Search

Finding the perfect filter shouldn't feel like a needle-in-a-haystack search. Our new Product Search tool uses a sophisticated algorithm to identify catalog filters based on their performance, not just their part number.

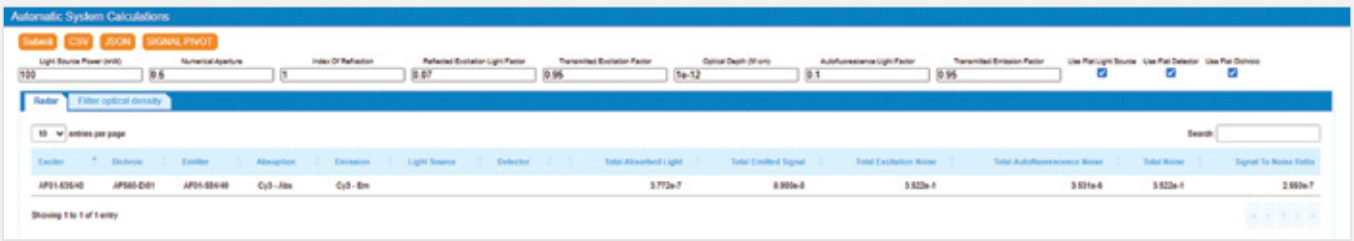


- **Performance-Based Discovery:** Search for filters by their rising or falling edges. Tell the tool exactly where your transmission needs to be, and it will shortlist the best matches from our database instantly.
- **Light Source Compatibility:** Upload your spectrum, and SearchLight will find the appropriate filter for your light source within our catalog offering.
- **Theoretical Benchmarking:** Have a "dream filter" in mind? Import your own theoretical data to see how closely our catalog products match your requirements, moving you from concept to prototype in seconds.
- **Immediate Availability:** Shortlist your results by Quick Ship status to ensure your project stays on schedule with filters that can be delivered in 1–3 days.

Eliminate Manual Churn with Automatic System Calculator

When designing for multi-fluorophore systems, calculating the performance of every possible combination of filters, light sources, and detectors is a notorious bottleneck. Our updated System Calculator now automates this manual churn.

- **Automated Batch Configuration:** Select multiple components and let the tool automatically generate every possible system configuration — turning dozens of manual clicks into a single, comprehensive table.
- **Multiple Views:** The first tab (Radar) displays the possible component combinations. The second tab (Filter Optical Density) displays the combined OD blocking for the filter sets.
- **Isolate Your Signal:** Instantly evaluate signal-to-noise ratios (SNR) and identify potential crosstalk. This ensures your filter sets are measuring only the intended fluorescence, minimizing interference before you purchase hardware.
- **Exportable Insights:** Export your full comparison table into a tabulated format (CSV) to share with your team or integrate into your internal design documentation.



Semrock

Semrock, Inc. manufactures optical filters that set the standard for the life science and analytical instrumentation industries, as well as optical filters and mirrors for laser and optical systems. OEM filters are manufactured in volume using thin-film sputtering and proprietary volume manufacturing technology. All Semrock products carry a ten-year warranty.

Founded in September 2000, Semrock is based in Rochester, New York, a well-known world center for optics, and has sales offices throughout the United States. In October 2008 Semrock became a unit of IDEX Corporation.

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(866-SEMROCK)

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Ordering

- **OEM customers in the USA and Canada** may place orders on the IDEX Health & Science website using a credit card. An account is required to order — visit www.idex-hs.com for details on setting up your account. Please note that credit approval is subject to review.
- **North American Government, University, and National Laboratory customers** may submit a purchase order for Semrock Optical Filters through our domestic distribution partner, AVR Optics (account required, www.avr-optics.com).
- **International customers** (outside the USA and Canada) may purchase Semrock Optical Filters through Semrock's distribution network. Please visit our website, www.idex-hs.com, to find your local distributor.

Online Quotes

- OEM Customers in the USA and Canada can generate quotes online (account required, www.idex-hs.com).
- North American Government, University, and National Laboratory customers can generate quotations through our domestic distribution partner, AVR Optics (account required, www.avr-optics.com).
- International customers purchasing through Semrock's distribution network may send shopping cart contents to their local distributor (account required, www.idex-hs.com).

Pricing & Availability

All prices are domestic USD and subject to change without notice. Check our website for current pricing and availability.

Shipping

Orders received for catalog products will be reviewed for best possible delivery date within 48 hours. Domestic orders are shipped UPS Ground or 2-day, unless otherwise requested. We also accept customers' shipping account numbers for direct carrier billing.

10-Year Warranty

Be confident in your filter purchase with our comprehensive 10-year warranty. Built to preserve their high level of performance in test after test, year after year, our filters reduce your cost of ownership by eliminating the expense and uncertainty of replacement costs.

30-Day Return Policy

Semrock offers a 30-day return policy for unused, undamaged standard-sized catalog products in their original packaging. Returns must be made within 30 days of purchase with an RMA number to qualify for a full credit. OEM volumes returned after 30 days may incur a restocking fee, and custom-sized parts are not eligible for return. Products purchased through distributors must be returned via the distributor, and all returns are subject to inspection. Returns without an RMA number will not be accepted and will be returned at the sender's expense.

RoHS & REACH Compliant

Semrock complies with both RoHS and REACH regulations. You can find our full compliance statement at www.idex-hs.com/about/environmental-policy

ISO 9001:2015 Certified

Semrock's Quality management system is certified to ISO 9001:2015.

TÜVRheinland CERTIFIED

ISO 9001: 2015

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