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TECHSPEC®

448nm CWL, 12.5mm Filter

Please select your shipping country to view the most accurate inventory information, and to determine the correct Edmund Optics sales office for your order.

Select Your Country/Region: European Union

Submit



Stock #86-975 **8 In Stock** [Additional Bandwidths](#)

- 1 +

€284^{,00}

ADD TO CART

Volume Pricing	
Qty 1-5	€284,00 each
Qty 6-25	€227,00 each
Qty 26-49	€213,00 each
Need More?	Request Quote

Prices shown are exclusive of VAT/local taxes

Product Downloads

- STEP:step
- Curve:pdf
- PDF Drawing:pdf
- IGES:igs
- eDrawing:easm
- EO Spec Sheet
- [Download All](#)

General

Type: Bandpass Filter

Compatible Fluorophore: 442nm Laser Excitation

Physical & Mechanical Properties

Diameter (mm): 12.50
+0.00/-0.10

Clear Aperture CA (mm): 8.69

Construction: Mounted in Black Anodized Ring

Physical Durability: Adhesion per MIL-PRF-13830B, Section C.4.5.12
Moderate abrasion per MIL-PRF-13830B, Section C.4.5.11
Cleaning per MIL-C-48497A Section 4.5.4.2

Substrate Thickness (mm): 2.00 ±0.25

Optical Properties

Angle of Incidence (°): 0 ±5

Bandwidth (nm): 20.00

OD 6 Blocking Wavelength Range (nm): 250 - 423 & 471 - 950

Optical Density OD (Average): ≥6.0

Average Transmission (%): >93 over Bandwidth

Center Wavelength CWL (nm): 448.00

Full Width-Half Max FWHM (nm):	25.00	Substrate: i Fused Silica (Corning 7980)
Coating:	Hard Coated	Surface: 60-10
Transmission (%):	93.00	
Transmitted Wavefront, RMS:	$\lambda/4$ (prior to coating)	

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Threading & Mounting

Mount Thickness (mm): 3.5 ±0.1

Environmental & Durability Factors

Environmental Durability: Humidity per MIL-STD-810H, Section 507.6
Temperature per MIL-STD-810H, Section 501.7 and 502.7

Regulatory Compliance

RoHS 2015: **Compliant**

Certificate of Conformance: [View](#)

Reach 247: **Compliant**

Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

Product Details

- Common Wavelengths for Popular Fluorophores
- Excitation Filters and Emission Filters Available
- >93% Transmission
- >OD 6 Blocking, <3% from Edge of Bandwidth
- **Fluorescence Filter Sets** and **Pre-Mounted Fluorescence Filter Cube Sets** Also Available

Our TECHSPEC® Fluorescence Bandpass Filters perfectly match common fluorophores' absorption and emission characteristics in fluorescence imaging applications. Excitation and emission filters are available, featuring high transmissions in the passband ($\geq 93\%$ for VIS designs) and >OD 6 blocking outside of the passband. These filters are also ideal components in applications using spectroscopic fluorescence detection, including analytical chemistry and biomedical instruments such as DNA sequencers and polymerase chain reaction (qPCR) devices. Each filter features state-of-the-art hard-sputtered coatings and is mounted in a black anodized ring for easy system integration.

Fluorescence microscopy and spectroscopy applications typically use a combination of three filters for each color channel (detection of individual fluorophores), an excitation and an emission bandpass filter, as well as a dichroic filter (also dichroic beamsplitters, such as our **Fluorescence Dichroic Filters** and **High-Performance Fluorescence Dichroic Filters**). More information on fluorescence microscopy and an example beam path can be found in the AppNote **Fluorophores and Optical Filters for Fluorescence Microscopy**. In short, excitation filters “clean up” the excitation light used to excite the fluorophores in the sample. On the other hand, emission filters allow only the emitted fluorescence to pass through to the detector while effectively blocking the excitation light and different wavelengths, producing high-contrast images and superior image clarity.

Our fluorescence bandpass filters are engineered with cutting-edge technology and are designed to enhance signal-to-noise ratios, improve contrast, and deliver excellent performance in optical imaging applications. These filters are designed to be widely compatible with microscopes from Nikon, Olympus, and Zeiss, making them suitable for various imaging applications, including widefield, confocal, multiphoton, and other fluorescence microscopy modalities. Whether you are imaging fixed cells, live cells, or tissues, our filters are engineered to deliver consistent and reliable image quality. Additionally, these filters can be used for fluorescence detection in qPCR, flow cytometry, or multi-well plate readers in applications such as immunofluorescence or high-throughput screening in which fluorescent molecules or dyes detect specific molecular structures or DNA sequences.

TECHSPEC® Fluorescence Bandpass Filters are optimized for maximum transmission within a specific wavelength range. They effectively isolate fluorescence signals from background noise, enhancing sensitivity and enabling more accurate detection of fluorophores. Explore our range of filters today and unleash the full potential of your fluorescence microscopy setup.

Technical Information

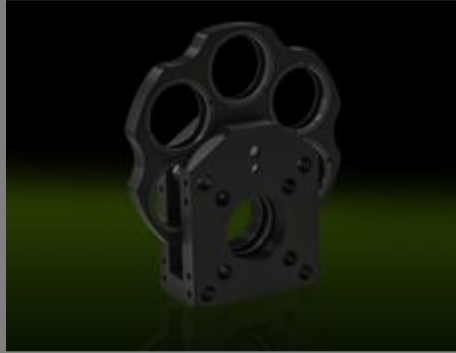
All mounted TECHSPEC® Optical Filters have a white arrow pointing to filter coated surface S1. An arrow pointing to filter coated surface S2.

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For quick reference. Filter oriented such that

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Related Products



Manual Cage Filter Wheel



C, S, and T-Mount Circular Optic Mounts



Cotton-Tipped Swab Applicators



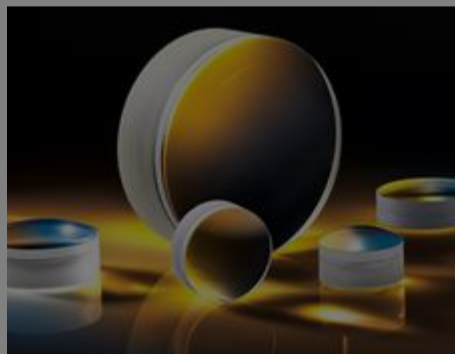
Multi-Band Fluorescence Bandpass Filters

Frequently Purchased Together



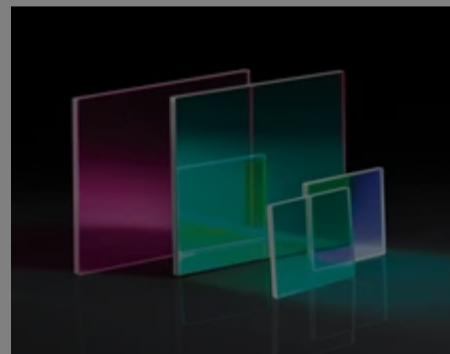
#33-917 - 30mm Dia. x 40mm FL, MgF₂ Coated, Achromatic Doublet Lens
€145,00

Qty



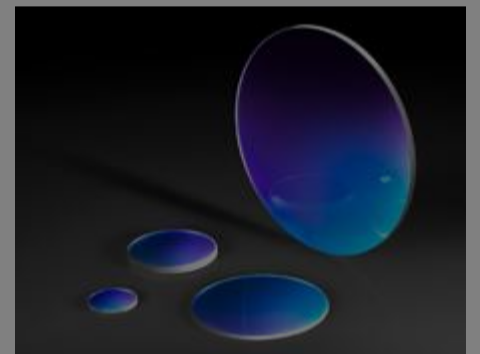
#33-923 - 30mm Dia. x 40mm FL, VIS-NIR Coated, Achromatic Lens
€166,00

Qty



#34-732 - 495nm, 12.5 x 17.6mm High Performance Fluorescence Dichroic Filter
€318,00

Qty





























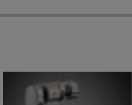

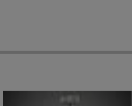



#43-627 - 2.5mm Dia., 0.5mm Thick, Uncoated, Sapphire Window
€23,00

Qty











Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
MORE+	12.5/12.7mm Optic Dia., SM05 Thin Mount, M4	Fixed		#13-789	€19,50 Request Quote	10 In Stock <input type="text" value="1"/>
MORE+	12.5/12.7mm Optic Dia., SM05 Thin Mount, 8-32	Fixed		#13-790	€19,50 Request Quote	17 In Stock <input type="text" value="1"/>
MORE+	12.5/12.7mm Optic Dia., E-Series Kinematic Mount	Adjustable - Tip-Tilt		#15-865	€43,50 Request Quote	6 In Stock <input type="text" value="1"/>
MORE+	12.5/12.7mm Optic Dia., L-Slot Direct Mount	Fixed		#36-416	€59,00 Request Quote	17 In Stock <input type="text" value="1"/>
MORE+	12.5/12.7mm Optic Dia., Side Flange Direct Mount	Fixed		#36-418	€59,00 Request Quote	10 In Stock <input type="text" value="1"/>

	Title	Type	Compare	Stock Number	Price	Buy
MORE+	 2.0 - 35.0mm Optic Dia., Tip-Tilt Screw Adjustable Ring Mount				€63,00	20+ In Stock <input type="text" value="1"/> 
MORE+	 9.5 - 73.0mm Optic Dia., Tip-Tilt Screw Adjustable Ring Mount					20+ In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., Kinematic Mount, 2-Screws	Adjustable - Tip-Tilt		#58-850	€93,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., L-Slot and Rotation Direct Mount	Adjustable - Rotary		#36-417	€96,50 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., Compact Kinematic Mount, 2-Screws	Adjustable - Tip-Tilt		#34-720	€101,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 5.0 - 25.0mm Optic Height, Metric Bar-Type Optic Holder	Fixed		#55-529	€102,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., Kinematic Mount, 3-Screws	Adjustable - Tip-Tilt		#58-853	€104,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 7.0 - 40.0 Optic Height, English Bar-Type Optic Holder	Fixed		#03-676	€106,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 10.0 - 60.0mm Optic Height, Metric Bar-Type Optic Holder	Fixed		#55-530	€108,00 Request Quote	CONTACT US <input type="text" value="1"/> 
MORE+	 7.0 - 67.0 Optic Height, English Bar-Type Optic Holder	Fixed		#03-669	€116,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., Compact Kinematic Mount, 3-Screws	Adjustable - Tip-Tilt		#34-721	€117,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 8.0 - 118.0 Optic Height, English Bar-Type Optic Holder	Fixed		#03-666	€120,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 4.0 - 36.0mm Optic Dia., Self-Centering Jaw Clamp	Fixed		#16-077	€157,00 Request Quote	5 In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., Stainless Steel Kinematic Mount, 2-Screws	Adjustable - Tip-Tilt		#26-814	€161,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., Stainless Steel Kinematic Mount, 3-Screws	Adjustable - Tip-Tilt		#26-817	€182,00 Request Quote	20+ In Stock <input type="text" value="1"/> 
MORE+	 12.5/12.7mm Optic Dia., X-Y Translating Optic Mount	Adjustable - Linear (XY)		#62-955	€261,00 Request Quote	7 In Stock <input type="text" value="1"/> 

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	Title	Type	Compare	Stock Number	Price	Buy
MORE+ 	12.5/12.7mm Optic Dia., Adjust Kine Mount, Lea				€270,00	6 In Stock <input type="text" value="1"/> 
MORE+ 	12.5/12.7m Optic Dia., Adjust Kine Mount, Mic					5 In Stock <input type="text" value="1"/> 
MORE+ 	5.0 - 100.0mm Optic Dia., Self-Centering Jaw Clamp	Fixed		#16-078	€410,00 Request Quote	CONTACT US <input type="text" value="1"/> 
MORE+ 	12.5/12.7mm Optic Dia., Precision Gimbal Mount	Adjustable - Gimbal		#84-640	€421,00 Request Quote	7 In Stock <input type="text" value="1"/> 
MORE+ 	12.5/12.7mm Optic Dia., X-Y-Z Translating Optic Mount	Adjustable - Linear (XYZ)		#62-958	€429,00 Request Quote	5 In Stock <input type="text" value="1"/> 

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Check out our full selection of mounts [here](#).

Resources

Media Type

- Application Note
- Video
- Published Article
- FAQ
- Glossary
- Trending in Optics

APPLICATION NOTE

The Importance of Optical Filter Orientation...

APPLICATION NOTE

Custom Bandpass Filter using Shortpass an...

VIDEO

Optical Filters Review

VIDEO

Optical Filter Coatings: Comparison of Traditional a...

PUBLISHED ARTICLE

Selecting Color Filter Glass for Life Science Applications

FAQ

What type of material should I look for in a filter?

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