

# High Signal-to-Noise Fluorescence Filters

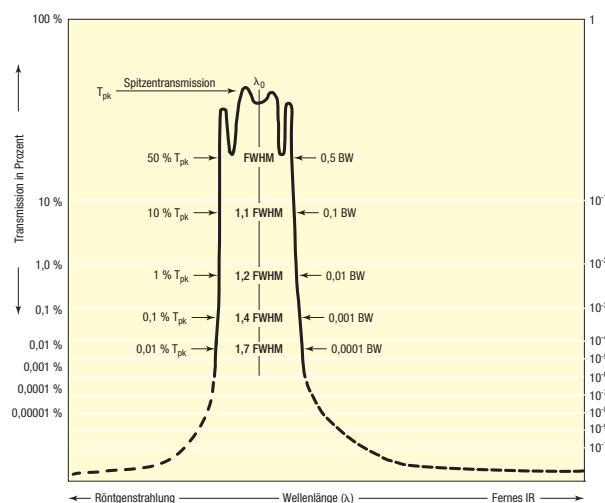


- High transmission
- Excellent spectral blocking
- Very low autofluorescence
- Excellent paired crosstalk suppression
- Patented Stabilife® construction
- Superior field life

Newport's High Signal-to-Noise Fluorescence Filters provide a custom defined narrow bandpass that has been designed based upon the absorption and emission spectra of the specific fluorophore of intended use. With a typical non-paired signal-to-noise ratio of 100,000:1, they can be paired with any other filter in the series with excellent crosstalk suppression. Developed as XM Fluorescence Filters and manufactured in Newport's Franklin, MA facility, these filters are a key enabling technology in numerous fluorescence based research and clinical instruments. Typical applications include instrumentation for flow cytometry, drug discovery, genetic analysis, and other fluorescence-based instrumentation.

## Specifications

Diameter	25.4 mm+0/-0.5 mm
Minimum Active Area	20.2 mm
Surface Quality	80-50 scratch-dig; F/F per MIL-F-48616
Thickness	1.0 to 9.0 mm
Effective Index of Refraction $n_e$	1.5
Wavelength Shift with Temperature	0.01 nm/°C
Temperature Range	-50°C to +100 °C



Bandshape specifications and marker wavelengths are provided as approximate reference data only

## Integrated Cross-Talk Data for Fluorophore-Specific Filter Pairs

Dye	Wavelength of Max Absorption	Wavelength of Max Emission	Excitation Filter	Emission Filter	Integrated Cross-Talk (Reference Only)
Aminomethylcoumarin (AMC)	345	442	10XM35-360	10XM35-430	1,000,000:1
DAPI	358	458	10XM35-360	10XM35-465	100,000,000:1
Hoechst 33258	351	455			
4-Methylumbelliferone	360	450			
CPM	385	471			
Lucifer Yellow	430	540	10XM35-430	10XM25-535	1,000,000:1
Acridine Orange (+rRNA)	460	650	10XM35-465	10XM35-625	1,000,000:1
YOYO-1 (+DNA)	491	509	10XM20-485	10XM25-535	100,000,000:1
Fluorescein (FITC)	495	519			
Acridine Orange (+DNA)	502	526			
BODIPY FL	503	512			
Rhodamine 123	505	528			
Ethidium Bromide (+DNA)	510	595	10XM20-485	10XM35-595	100,000,000:1
Tetramethylrhodamine (TRITC)	552	580	10XM25-530	10XM35-595	10,000,000:1
R-phycoerythrin	565	575	10XM20-485	10XM10-585	1,000,000:1
Ethidium Homodimer-1	528	617	10XM25-530	10XM35-625	100,000,000:1
Propidium Iodide	536	617			
7-Aminoactinomycin (7-AAD)	550	645	10XM25-530	10XM40-650	1,000,000,000:1
Texas Red	595	615	10XM20-590	10XM35-635	100,000:1

## Ordering Information

Center Wavelength (nm)	FWHM (nm)	Minimum Peak Transmission (%)	Signal-to-Noise Ratio	Integrated Blocking Range	Model
360, +0/-5	35±3.5	45	10,000:1	X-ray to 700 nm	10XM35-360
425, +5/-0	35±3.5	50	100,000:1	X-Ray to 925 nm	10XM35-430
460, +5/-0	35±3.5	50	100,000:1	X-Ray to 925 nm	10XM35-465
485, +0/-5	20±2.0	60	100,000:1	X-Ray to 925 nm	10XM20-485
530, +0/-5	25±2.5	60	100,000:1	X-Ray to 925 nm	10XM25-530
530, +5/-0	25±2.5	60	100,000:1	X-Ray to 925 nm	10XM25-535
540, +0/-5	25±2.5	60	100,000:1	X-Ray to 925 nm	10XM25-540
550, +0/-5	10±1.0	50	100,000:1	X-Ray to 1.2 μm	10XM10-550
580, +5/-0	10±1.0	50	100,000:1	X-Ray to 1.2 μm	10XM10-585
590, +0/-5	20±2.0	65	100,000:1	X-Ray to 925 nm	10XM20-590
590, +5/-0	35±3.5	65	100,000:1	X-Ray to 925 nm	10XM35-595
620, +5/-0	35±3.5	65	100,000:1	X-Ray to 925 nm	10XM35-625
630, +5/-0	35±3.5	65	100,000:1	X-Ray to 925 nm	10XM35-635
645, +5/-0	40±4.0	65	100,000:1	X-Ray to 925 nm	10XM40-650

In addition to the listed standard items, we manufacture custom OEM filters using standard High S/N designs and construction processes according to customer defined performance requirements. Contact our applications experts to define the product that will provide the best performance for your application.



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BANDPASS FILTERS

CALIBRATION FILTERS

COLORED GLASS FILTERS

DICHROIC FILTERS

DIFUSERS

EDGE FILTERS

FLUORESCENCE FILTERS

NEUTRAL DENSITY FILTERS