

# ***Flexible Wavelength Selector (FWS)***

## ***Tunable bandpass filter for spectroscopy and spectral imaging***

Flexible Wavelength Selector is a unique, compact optomechanical device that utilizes the patented TwinFilm™ technology to deliver precise wavelength tuning and adjustable bandwidth with the imaging advantages of a circular aperture filter.

### ***FWS- Auto (Automated type)***



Poly-RED



Poly-BLUE



Mono

### ***FWS- Manual (Manual type)***



Basic



High Resolution



CenterLine



Customized

#### ***Ideal for***

- Fluorescence microscopy
- Hyperspectral imaging
- Life sciences instrumentation
- Machine vision
- Laboratory research

#### ***Key product advantages***

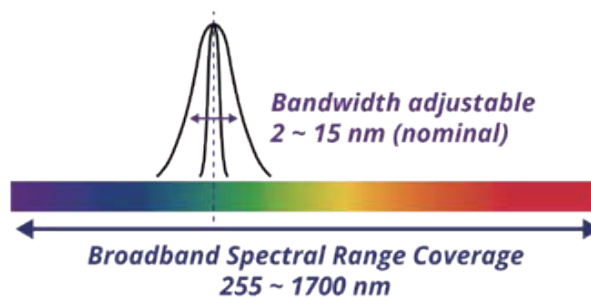
- Broad wavelength tuning (255 - 1700 nm)
- Adjustable bandwidth (FWHM 2 - 15 nm, nominal)
- 5 / 10 mm circular aperture
- Compact and light-weight optomechanical device
- No beam deviation or walk-off during tuning

## Flexible Wavelength Selector – Poly-RED



Model name	Spectral range (nm)
Poly-RED-UV	280 - 390
Poly-RED-VIS	430 - 790
Poly-RED-IR	775 - 1150
Poly-RED-SWIR	1140 - 1700
Poly-RED-Custom	Custom range

Spectral range (nm)	Tunable bandwidth (nm)
255 - 700	2 - 15
701 - 890	3 - 15
891 - 1500	5 - 15
1475 - 1700	7 - 13



\* Center Wavelength tuning range can vary by a few nanometers depending on the product.

\* Minimum step size of center wavelength : 1 nm

\* Step size of bandwidth (FWHM) : 1 nm

	FWHM	2 - 15								3 - 15		5 - 15				7 - 13	
	CWL	255 - 290	280 - 310	310 - 350	348 - 390	385 - 435	430 - 490	485 - 550	545 - 620	615 - 700	690 - 790	775 - 890	880 - 1015	1000 - 1150	1140 - 1310	1300 - 1500	1475 - 1700
Poly-RED-UV			●	●	●												
Poly-RED-VIS							●	●	●	●	●						
Poly-RED-IR												●	●	●			
Poly-RED-SWIR															●	●	●
Poly-RED-Custom						Up to 9 in one device											

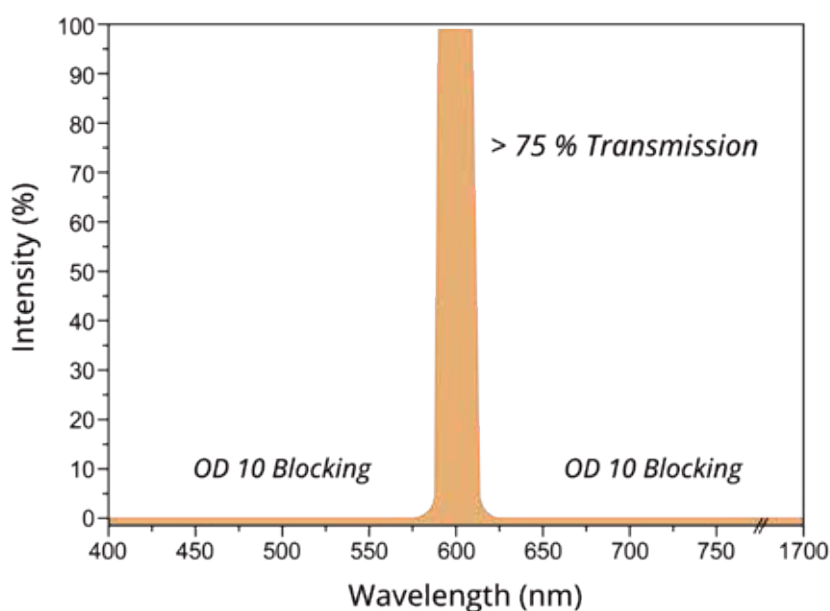
Aperture size

Poly-RED-A5	5 mm	Suitable for supercontinuum lasers
Poly-RED-A10	10 mm	Suitable for light sources with large beam size (tungsten-halogen, plasma, LED)

\* For optimal performance input light source must be collimated

## Full Specifications

	Poly-RED-A5	Poly-RED-A10
Spectral range (nm)	255-1700	255-1700
Bandwidth (FWHM) (nm)	2-15 (nominal)	2-15 (nominal)
Aperture size (mm)	5	10
Out of band Blocking	OD 10 up to 1700 nm	
Step size of center wavelength (nm)	1.0	
Step size of bandwidth (FWHM) (nm)	1.0	
Wavelength accuracy (nm) : CWL, FWHM	< 1 nm	
Damage threshold	Pulse : Peak Fluence < 1.75 joules/cm <sup>2</sup> (~70 μm spot diam., 10 ns, 10 Hz, 532 nm LASER) CW (Continuous wave) : Intensity < 2 MW/cm <sup>2</sup> (1064 nm, ~ 90 μm spot diam.)	
Transmission efficiency (%)	≥ 75 % (in proportion to the input light power / FWHM > 10 nm)	
Scanning speed (ms)	20 - 200 ms (depending on step size)	
Software	FWS-Auto ver 4.2	
Dimension (L x W x H, mm)	186.2 x 124 x 214	
Input power	DC 12 V, 5 A	
Electric requirement	AC 100 - 240 V, 50/60 Hz	
Data interface	USB 2.0	
Weight (kg)	4.2	



\* Transmission may differ depending on specific wavelengths

## Flexible Wavelength Selector – Poly-BLUE



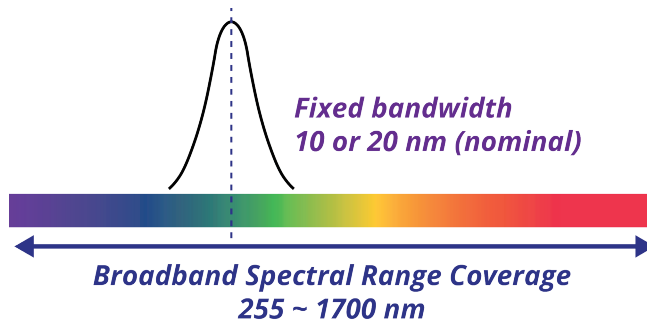
Model name	Spectral range (nm)
Poly-BLUE-UV	280 - 390
Poly-BLUE-VIS	430 - 790
Poly-BLUE-IR	775 - 1150
Poly-BLUE-SWIR	1140 - 1700
Poly-BLUE-Custom	Custom range



\* Center Wavelength tuning range can vary by a few nanometers depending on the product.

\* Minimum step size of center wavelength : 1 nm

\* Bandwidth (FWHM) Fixed : 10 or 20 nm (nominal)



	FWHM	10 or 20 (nominal)															
	CWL	255 - 290	280 - 310	310 - 350	348 - 390	385 - 435	430 - 490	485 - 550	545 - 620	615 - 700	690 - 790	775 - 890	880 - 1015	1000 - 1150	1140 - 1310	1300 - 1500	1475 - 1700
Poly-BLUE-UV			●	●	●												
Poly-BLUE-VIS							●	●	●	●	●						
Poly-BLUE-IR												●	●	●			
Poly-BLUE-SWIR															●	●	●
Poly-BLUE-Custom		Up to 9 in one device															

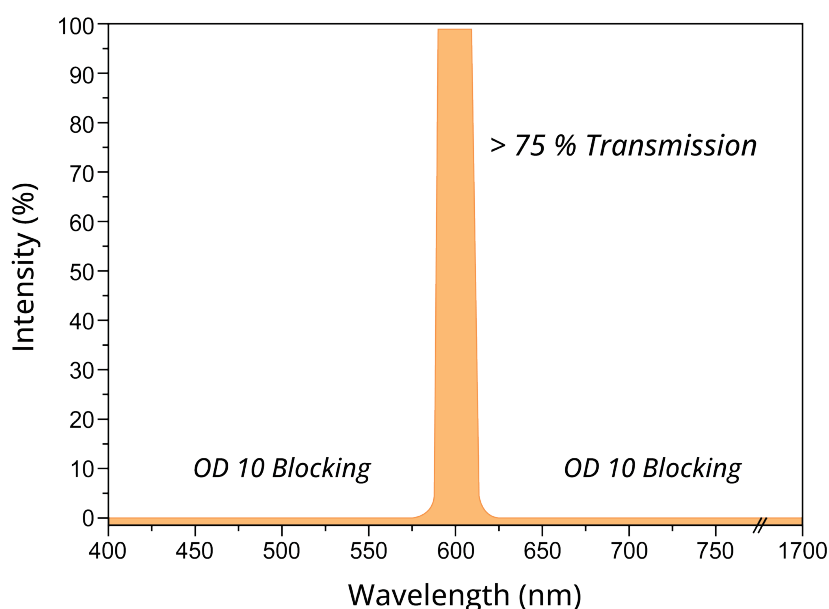
Aperture size

Poly-BLUE-A5	5 mm	Suitable for supercontinuum lasers
Poly-BLUE-A10	10 mm	Suitable for light sources with large beam size (tungsten-halogen, plasma, LED)

\* For optimal performance input light source must be collimated

## Full Specifications

	Poly-BLUE-A5	Poly-BLUE-A10
Spectral range (nm)	255-1700	255-1700
Bandwidth (FWHM) (nm)	10 or 20 (fixed)	10 or 20 (fixed)
Aperture size (mm)	5	10
Out of band Blocking	OD 5 in tuning range, OD 10 in spectral range up to 1700 nm	
Step size of center wavelength (nm)	1.0	
Step size of bandwidth (FWHM) (nm)	Fixed 10 or 20 nm	
Wavelength accuracy (nm) : CWL, FWHM	< 1 nm	
Damage threshold	Pulse : Peak Fluence < 1.75 joules/cm <sup>2</sup> (~70 μm spot diam., 10 ns, 10 Hz, 532 nm LASER) CW (Continuous wave) : Intensity < 2 MW/cm <sup>2</sup> (1064 nm, ~ 90 μm spot diam.)	
Transmission efficiency (%)	≥ 75 % (in proportion to the input light power / FWHM > 10 nm)	
Scanning speed (ms)	20 - 200 ms (depending on step size)	
Software	FWS-Auto ver 4.2	
Dimension (L x W x H, mm)	136.7 x 124 x 214	
Input power	DC 12 V, 5 A	
Electric requirement	AC 100 - 240 V, 50/60 Hz	
Data interface	USB 2.0	
Weight (kg)	3.15	



\* Transmission may differ depending on specific wavelengths

## Wavelength Selection Guide

### Poly-RED

FWHM	CWL	UV	VIS	IR	SWIR	CUSTOM
2 - 15	255 - 290					
	280 - 310	●				
	310 - 350	●				
	348 - 390	●				
	385 - 435					
	430 - 490		●			
	485 - 550		●			
	545 - 620		●			
	615 - 700		●			
3 - 15	690 - 790		●			
	775 - 890			●		
5 - 15	880 - 1015			●		
	1000 - 1150			●		
	1140 - 1310				●	
	1300 - 1500				●	
7 - 13	1475 - 1700				●	

\* Units : nm

### Poly-BLUE

FWHM	CWL	UV	VIS	IR	SWIR	CUSTOM
10 or 20 (nominal)	255 - 290					
	280 - 310	●				
	310 - 350	●				
	348 - 390	●				
	385 - 435					
	430 - 490		●			
	485 - 550		●			
	545 - 620		●			
	615 - 700		●			
	690 - 790		●			
	775 - 890			●		
	880 - 1015			●		
	1000 - 1150			●		
	1140 - 1310				●	
	1300 - 1500				●	
	1475 - 1700				●	

\* Units : nm

#### Aperture size

Poly-A5	5 mm	Suitable for supercontinuum lasers
Poly-A10	10 mm	Suitable for light sources with large beam size (tungsten-halogen, plasma, LED)