ImSpector spectrographs

ImSpector V8 / V10H

ImSpector V10E

ImSpector N17E

OPTIONS, FORE OPTICS

- Fore optics, Standard series: OL8, OL12, OL17, OL23 and OL35 for 2/3" or smaller detector.
- Fore optics, Enhanced series: OLE9, OLE18.5, OLE23 and OLE140 for 2/3" or larger detector. Optimized for Enhanced series.
- Fore optics, OLES15, OLES22.5, OLES30 and OLES56 for N17E

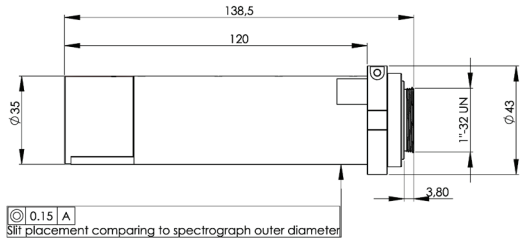
OPTIONS, ACCESSORIES

- Mechanical shutter (Enhanced series)
- Collection fiber optics
- Order blocking filters; OBF 570 (rectangular 14 x 12mm or circular 20mm Ø and 17mm Ø) for V10 and V10E
- Fiber optic diffuse irradiance sensor (FODIS) for light source monitoring (Enhanced series)

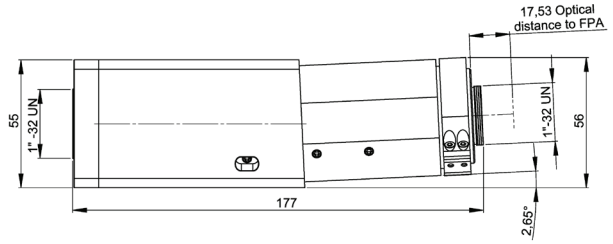
Specim ImSpectors are designed for the VIS (380 - 800 nm), VNIR (400 - 1000 nm) and NIR (900 - 1700 nm) wavelength ranges. These spectrographs provide a straightforward, high performance, yet cost-effective method of integration. When combined with scientific grayscale CCD or CMOS cameras or InGaAs sensor, the combination provides a line-scan Spectral Imaging device.

DIMENSIONS

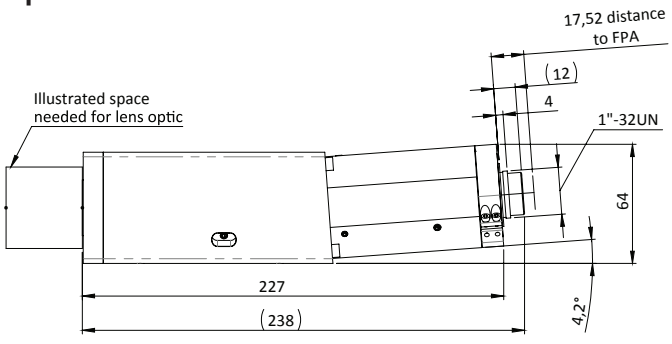
ImSpector V8 / V10H



ImSpector V10E



ImSpector N17E



ImSpector	V8	V10E	V10H	N17E
Optical characteristics				
Spectral range	380 - 800 nm *1	400 - 1000 nm *1	400 - 1000 nm *2	900 - 1700 nm *2
Dispersion	66 nm / mm	97.5 nm / mm	139 nm / mm	110 nm / mm
Spectral resolution	6 nm (with 80 µm slit) *2	2.8 nm (with 30 µm slit) *2	11.2 nm (with 80 µm slit)	5 nm (with 30 µm slit)
Image size	6.6 (spectral) x 8.8 (spatial) mm corresponding to standard ⅔" image sensor	Max 6.15 (spectral) x 14.2 (spatial) mm	4.3 (spectral) x 6.6 (spatial) mm, corresponding to standard ½" image sensor	Max 7.6 (spectral) x 14.2 (spatial) mm
Spatial resolution	Rms spot radius < 30 µm	Rms spot radius < 9 µm	Rms spot radius < 40 µm	Rms spot radius < 15 µm
Aberrations	Insignificant astigmatism	No astigmatism	Insignificant astigmatism	No astigmatism
Bending of spectral lines across spatial axis	Smile < 45 µm	Smile < 1.5 µm	Smile < 30 µm	Smile < 5 µm
Bending of spatial lines across spectral axis	Keystone < 40 µm	Keystone < 1 µm	Keystone < 20 µm	Keystone < 5 µm
Numerical aperture	F/2.8	F/2.4	F/2.8	F/2.0
Slit width, default	50 µm (30, 80 and 150 µm on request)	30 µm (18, 50 ,80 and 150 µm on request)	50 µm (30, 80 and 150 µm on request)	30 µm (50, 80 and 150 µm on request)
Slit length	9.6 mm	14.2 mm	9.8 mm	14.2 mm
Optical input	N/A	Telecentric	N/A	Telecentric
Efficiency	> 50% independent of polarization			
Stray light	< 0.5% (halogen lamp, 590 nm long-pass filter)		< 0.5% (halogen lamp, 633 nm notch filter)	< 0.5% (halogen lamp, 1400 nm long-pass filter)
Mechanical characteristics				
Size	D 35 x L 139 mm	W 60 x H 60 x L 175 mm	D 35 x L 139 mm	W 60 x H 60 x L 220 mm
Weight	300 g	1100 g	300 g	1500 g
Body	Anonized aluminium tube			
Lens and camera mount	Standard C-mount adapter			
User adjustments	Image axis relative to detector rows, adjustable back focal length +/- 1mm			
Environmental characteristics				
Storage	-20 ... +85 °C			
Operating	+5 ... +40 °C, non-condensing			

*1 Order blocking filter is available for mounting in front of the detector window.

*2 System spectral and spatial resolutions also depend on the discrete imaging nature of detector and lens quality.