



## COMPACT AND FAST WITH FULL LWIR RANGE

Specim FX120 is an advanced long-wave infrared (LWIR) hyperspectral camera with a full spectral range of 7.7 to 12.3  $\mu\text{m}$ .

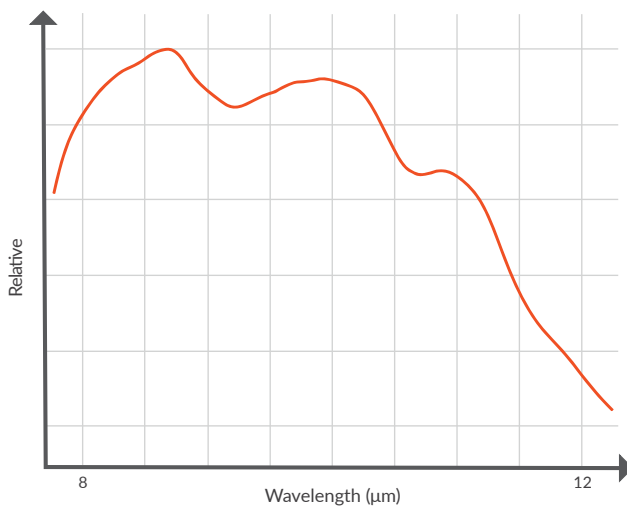
With its excellent spectral and spatial imaging performance, this thermal push-broom HSI camera is well-suited to mineral exploration, environmental analysis, thermal anomaly detection, and safety and security applications.

With the SisuRock workstation, Specim FX120 enables fast and accurate drill core scanning.

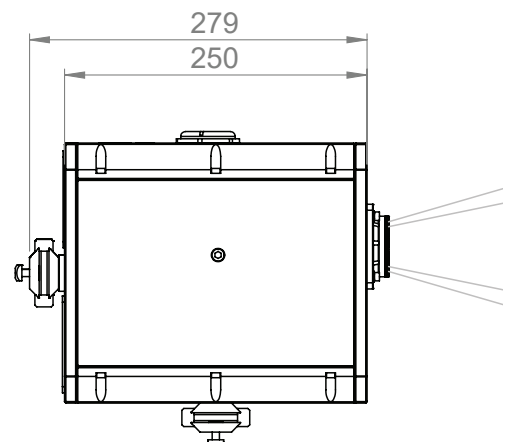
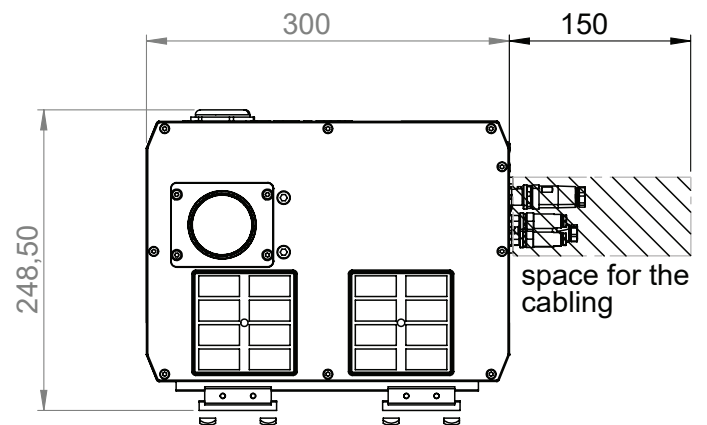
## FEATURES

- 7.7 to 12.3  $\mu\text{m}$  spectral range
- 160 spectral bands
- 616 spatial pixels
- High image speed of 240 FPS (with 1ms integration time)
- High signal-to-noise ratio
- GigE Vision standard interface
- Freely selectable multiple regions of interest (MROI)
- Compact, transferable and robust

## SPECTRAL RESPONSE



## DIMENSIONS



<b>Spectral Range</b>	7.7 - 12.3 $\mu\text{m}$	
<b>Spectral resolution (FWHM)</b>	100 nm	
<b>Spectral sampling/pixel</b>	30 nm	Without binning
<b>Spectral bands</b>	160	
<b>Numerical aperture</b>	2.0	
<b>Optics magnification</b>	0.5	
<b>Effective pixel size</b>	30 $\mu\text{m}$	At fore lens image plane
<b>Effective slit width</b>	104 $\mu\text{m}$	At fore lens image plane
<b>Effective slit length</b>	18.5 mm	At fore lens image plane
<b>Dynamic Range - Reflectance measurement</b>	4000:1 (1.5ms); 6000:1 (0.2ms)	Maximum true signal / dark noise
<b>Max SNR - Reflectance measurement</b>	2500:1 (1.5ms) ; 3000:1 (0.2ms)	Maximum true signal / signal noise
<b>Max SNR - Emission measurement</b>	500	300 K target; Averaged over spot size
<b>Spatial pixels</b>	616	
<b>Bit depth</b>	16	
<b>Maximum frame rate</b>	240 FPS	Full image with default binning and 1ms integration time
<b>Binning</b>	1,2,4 spectral and spatial	Default: 2 spectral x 1 spatial
<b>ROI</b>	Freely selectable multiple regions of interest	Minimum height of ROI is two 1-binned rows. Maximum frame rate is determined by total number of rows between first row of first MROI and last row of last MROI – not the total number of rows included in the MROI's.
<b>Pixel operability</b>	>= 96 %	
<b>Image corrections</b>	Non uniformity correction Bad pixel replacement Automatic Image Enhancement (AIE)	One point NUC  AIE: Unified spectral calibration + corrected smile and keystone aberrations
<b>Sensor material</b>	MCT	
<b>Integrated cooler</b>	Stirling	
<b>Full well capacity</b>	20 Me-	
<b>Read-out modes</b>	ITR	
<b>Optics temperature</b>	TEC-stabilized	Default is 20 degrees Celsius
<b>Lens mount</b>	Custom mount	
<b>Fore lens options</b>	OLEL43, OLEL32	
<b>Field of view</b>	24 deg., 32 deg.	
<b>Camera digital data output/control interface</b>	GigE Vision, Custom ethernet	
<b>Camera control protocols</b>	GenICam, JSON-RPC	
<b>Power input</b>	24 V DC	
<b>Power consumption</b>	150 W	During simultaneous cool-down of optics and detector
<b>Connectors</b>	Ethernet Aux Power Trig In Trig Out	
<b>IP</b>	IP40	
<b>Dimensions (L x W x H)</b>	250 mm x 300 mm x 220 mm	Mounting surface option on two sides. The mounting kit adds a 24 mm distance on the mounting side.
<b>Weight</b>	16 kg	
<b>Storage temperature</b>	-20 ... +50 $^{\circ}\text{C}$	
<b>Operating temperature</b>	+5 ... +40 $^{\circ}\text{C}$	
<b>Relative humidity</b>	5% – 95% (non-condensing)	

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