

# BlueEye Gen 2

UV Hyperspectral Imaging Camera  
(220 – 380 nm)



# Product Overview

- › UV hyperspectral imaging (220–380 nm) for advanced material characterization
- › Flexible deployment for lab, benchtop, or industrial environments
- › Seamless integration with perClass Mira for acquisition and analysis
- › Configurable system options including UV lighting, enclosure, and ozone mitigation

## DESCRIPTION

The BlueEye Gen 2 hyperspectral camera operates in a UV wavelength range suitable for a variety of applications, offering unique advantages due to its use of shorter-wavelength, higher-energy radiation compared to visible and infrared light.

While standard HSI technology at longer wavelengths primarily visualizes molecular vibrations, the UV range is particularly sensitive to electron transitions, making it highly valuable for studying non-molecular substances such as minerals or semiconductors. In addition, materials containing certain molecular structures, such as conjugated systems, exhibit a unique spectral response in the UV range.

Compatible with industry-leading perClass Mira, the BlueEye Gen 2 is available as a benchtop or factory-deployable UV hyperspectral imaging system with camera, scanning stage, UV lighting, enclosure, and ozone mitigation options.

## KEY FEATURES

- 1750 spectral pixels
- Robust design
- USB 3.1, Type-C interface
- Adjustable spatial and spectral ROI

## APPLICATIONS

- Biomedical research and commercial biotechnology
- Pharmaceutical tablet characterization
- Forensics and cultural heritage analysis
- Adhesive and film analysis
- Quality control
- Contamination detection
- Chemical analysis

# Technical Specifications

## SPECTROGRAPH

## BlueEye PC

## BlueEye TEC

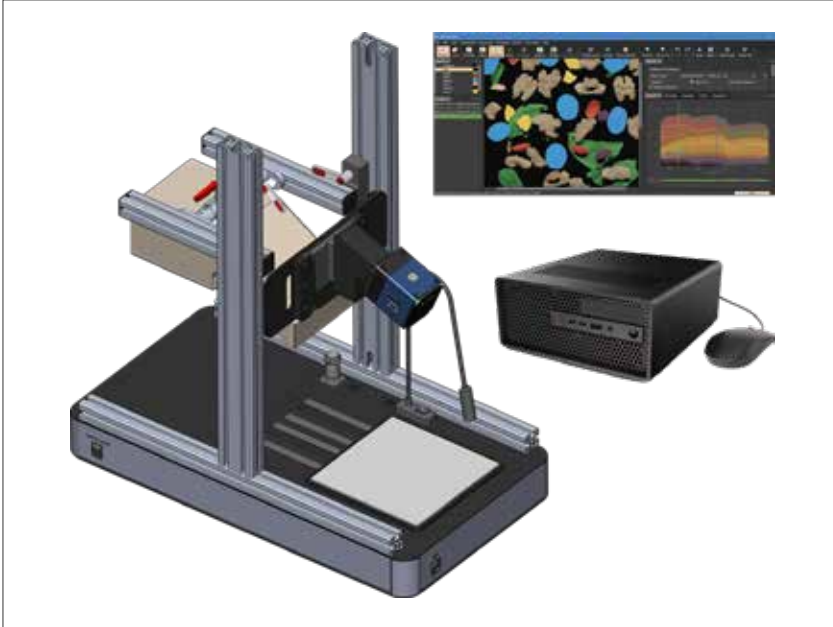
Wavelength Range	220–380 nm	
Pixels (Spatial × Spectral)	1648 × 1750	
Spectral Resolution (FWHM)	< 2 nm (with 80 μm slit)	
Sensor	CMOS, Back-illuminated	
Pixel Pitch	6.5 μm × 6.5 μm	
Numerical Aperture	f/2.4	
Maximum Frame Rate	40 fps (Full-Frame)	
ADC Bit-Depth	16-bit (2 × 12-bit ADC at Low- and High-Gain)	
Digital Interface	USB 3.1 Type C	
Dimensions (L×W×H)	138 mm × 65 mm × 162 mm	138 mm × 87 mm × 204 mm
Weight (Without Lens)	1.4 kg	1.9 kg
Cooling Technology	Passive	TEC + Forced Air
Input Voltage	USB 3.1 Type C	USB 3.1 Type C + External 24 VDC
Maximum Power	6 W	30 W
Operational Temp Range, Humidity	+10°C to +30°C, 10–70% Non-Condensing	

<sup>1</sup> Camera sensor features 2048 spatial pixels, 1648 spatial pixels are available with the 25 mm, 35 mm, 50 mm, and 75 mm lenses. 2048 spatial pixels are available with the 105 mm lens.

## ACCESSORIES

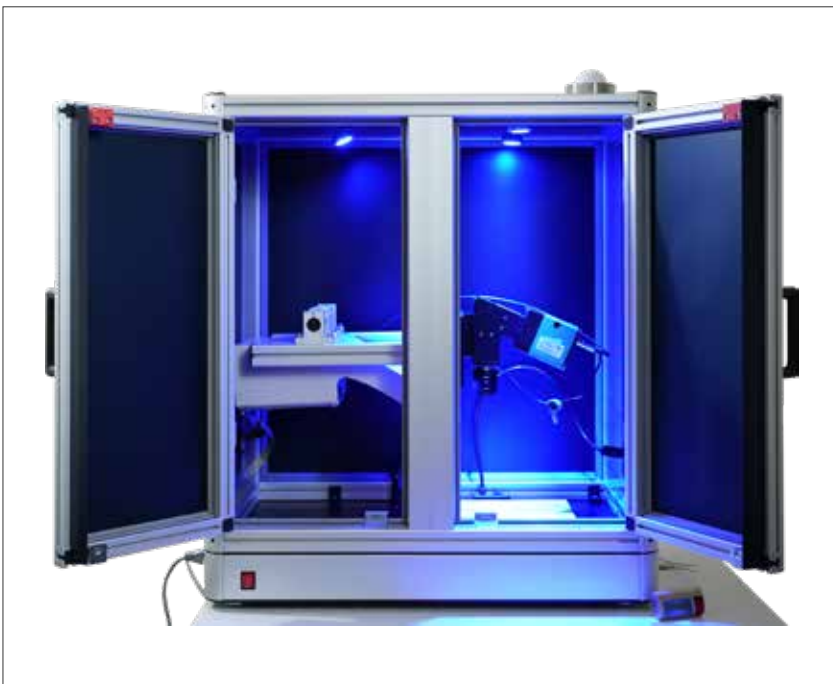
- Lens focal length options: 25 mm, 35 mm, 50 mm, 75 mm, and 105 mm
- perClass Mira acquisition and analysis software with run-time option

# System Configurations



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**Figure 1.**  
BlueEye TEC Gen2 integrated into a UV hyperspectral imaging system with MVPC host computer. Protective enclosure and ozone mitigation system not shown.



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**Figure 2.**  
UV hyperspectral imaging system with BlueEye Gen2, shown with enclosure doors open.