

Hyperspectral imaging is an invaluable analytical technique for life sciences and biotechnology applications whether used as a traditional high performance spectral imaging instrument or whether deployed as a multi-channel spectroscopy instrument.

Readily integrated with other laboratory instruments, Headwall's Hyperspec™ instruments offer the researcher access to accurate, calibrated, and repeatable spectral analysis. When utilized as a multi-channel spectrometer, researchers are able to conduct high-throughput screening experiments where high spectral resolution, spatial differentiation, and channel separation are all critical parameters.

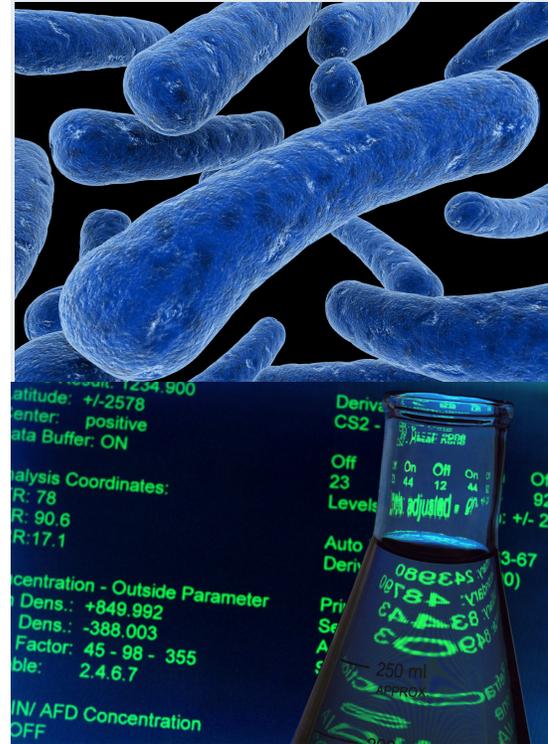
Optimized for high-throughput screening, the Hyperspec instruments are fully-capable of processing at very high speeds based on selected spectral bands or wavelengths of interest.

For life science and biotechnology research, Headwall offers the Hyperspec™ Starter Kit – an instrument system comprised of a Hyperspec™ sensor, image rendering software, sample illumination, moving stage, and mounting gantry.

Key advantages of hyperspectral imaging for laboratory researchers include:

- For material classification, derive the spectral signature for every channel within the micro-well plate or for every pixel within the spatial field of view
- Color render the hyperspectral image based on an established library of known spectral signatures
- For high throughput screening, generate wavelength-specific criteria for high speed analytical control throughout the discovery and experimentation process

Headwall's Hyperspec™ imaging, multi-channel spectrometer systems are available for attachment to microscopes through C-mount attachment or as integrated microscopy systems complete with application-specific software through Headwall's application partners.



## Fluorescence

### High Throughput Screening

### Laboratory R & D

### Multi-Channel Spectroscopy

### Nanobead & Quantum Dot Analysis

Headwall's award-winning Hyperspec™ imaging spectrometer family is built on a totally reflective concentric, f/2.0 optical design and optimized for imaging in harsh environments. All Hyperspec™ instruments are based on Headwall's patented aberration-corrected, imaging design which feature the company's "original", high efficiency holographic gratings or diamond-turned diffraction gratings. To achieve very low stray light and high signal-to-noise performance, no prism or transmissive optics are used within the spectrometer. With Headwall's unique ability to design and fabricate the diffractive optics, each fully integrated Hyperspec™ imaging sensor is manufactured with application-specific, spectral and spatial imaging performance.

**Headwall Photonics offers the broadest range of spectral imaging instrumentation for demanding applications.**

Hyperspectral Sensors	Spectral Range
Hyperspec® VIS	380 - 825 nm
Hyperspec® VNIR	400 - 1000 nm
Hyperspec® Extended VNIR	600 - 1600 nm
Hyperspec® NIR	900 - 1700 nm
Hyperspec® SWIR	1000 - 2500 nm
Micro-Hyperspec™ VNIR	400 - 1000 nm
Micro-Hyperspec™ NIR	900 - 1700 nm
High Efficiency Hyperspec® NIR	900 - 1700 nm
High Efficiency Hyperspec® SWIR	1000 - 2500 nm



*Information on UV, MWIR, and LWIR Hyperspec® sensors are available upon request.*

**Raman Imaging Instruments**

- Raman Explorer™ 260 nm
- Raman Explorer™ 532 nm
- Raman Explorer™ 785nm
- Raman Explorer™ 830 nm
- Raman Explorer™ 1064 nm
- Raman Discovery™ 532 nm
- Raman Discovery™ 785 nm



**About Headwall Photonics:**

Headwall Photonics is the leading designer and manufacturer of imaging spectrometers and spectral instrumentation for industrial, commercial, and government markets. Headwall's high performance spectrometers, spectral engines, and holographic diffraction gratings have been selected by OEM and end-user customers around the world for use in critical application environments. As a pioneer in the development of innovative spectrographs and imaging spectrometers based on optical technologies, Headwall enjoys a market leadership position through the design and manufacture of patented spectral instrumentation that is customized for application-specific performance. Headwall Photonics was formed in 2003 as the result of a management buy-out from Agilent Technologies. **For more information please call 978.353.4100 or email us at [Information@HeadwallPhotonics.com](mailto:Information@HeadwallPhotonics.com).**



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