

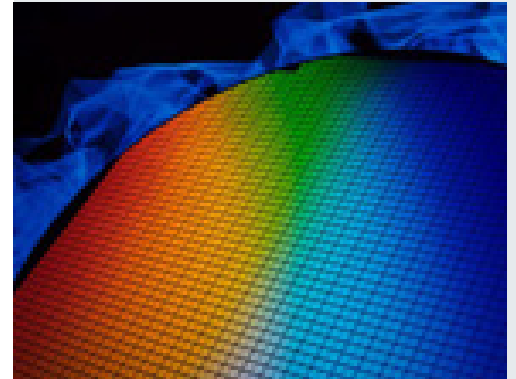
In-line hyperspectral sensing is useful for monitoring formulation and inspection processes across numerous industries. The technology represents a valuable analytical technique for capturing important spectral data critical to the operation and maintenance of key steps within an automated process environment.

Hyperspectral imaging simultaneously yields precise information for all wavelengths across the complete spectral range available. Traditionally, the near infrared range (NIR) of 900 to 1700 nanometers and the extended visible-near infrared (Extended VNIR) range of 600 to 1600 nanometers are of considerable interest for process manufacturing applications.

With a wide field of view and optimized spectral and spatial resolution, Headwall's Hyperspec[®] sensors are customized for in-line and at-line material inspection and quality control. With the creation of hyperspectral datacubes (a data set including all spatial and spectral information), manufacturers can now control and monitor critical process steps by:

- Generating wavelength-specific criteria for pass/fail during high-speed processing
- Collecting the spectral signature of every point within the field of view for material classification
- Color-rendering images within the field of view based on an established library of spectral signatures

Two modes of operation are available for deployment of the Hyperspec sensor – a lens-based input system for capturing spectral images moving along or across the manufacturing line or with a fiber-based input for use as a multi-point, multi-channel spectrometer system.



Food Processing

Pharmaceuticals

LCD Quality Control

Semiconductor Operations

Photovoltaics

Wafer Inspection

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™ 248 nm
- Raman Explorer™ 532 nm
- Raman Explorer™ 532/685 nm dual excitation
- Raman Explorer™ 632.8 nm
- Raman Explorer™ 785 nm
- 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.**

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