

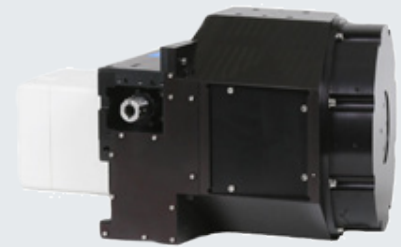
Raman Explorer™ and Raman Discovery™ are high-efficiency, high-performance Raman imaging spectrometers designed for use in harsh environments.

Headwall Photonics has developed a family of Raman spectrometers that are best-in-class for a wide range of high-performance applications. The Raman Explorer™ provides high optical efficiency and throughput with a minimum of optical noise. High spatial resolution comes from a tall entrance slit that affords optimized signal collection with minimal image distortion and channel cross-talk. The spectrometers also have the ability to process separate calibration and radiometric reference channels. The Raman Explorer™ also covers the full Raman spectral range and has no moving parts, which combine to offer very high spectral resolution. Initially designed for space-based applications, the very compact and rugged Raman Explorer has been successfully deployed in harsh environments ranging from the factory floor to deep-sea exploration submersibles. Laser excitations for Raman Explorer range from 248nm up to 1064nm (see table on reverse for exact configurations).

The Explorer and Discovery Raman imaging instruments are based on Headwall's patented, aberration-corrected retro-reflective designs featuring exceptionally high signal-to-noise across the entire Raman bandwidth which eliminates keystone and smile image degradation. The innovative optical designs of the Raman Explorer and Raman Discovery products feature a very short focal length with f/2.4 optical throughput thus allowing for a very compact, high performance instrument.

The Raman Discovery™ is an affordable, hand-held solution for Raman applications where multi-channel Raman imaging measurements are key differentiators. It is a very portable unit designed for harsh, mission-critical environments. High optical efficiency, high spectral/spatial resolution, and a large entrance aperture with minimal image distortion are key advantages of the Raman Discovery. Laser excitations include 785nm and 532nm.

Application-Specific Solutions For Critical Environments



Raman Explorer



Raman Discovery

Applications:

- Chemical/biological threat assessment
- Explosives & chemical identification
- Forensics
- Pharmaceuticals
- Plastics & recycling
- Raw material identification & verification
- Mineral analysis
- Process Analytical Technology
- Microscopy
- Spatially-offset Raman

Key Benefits:

- Superb imaging performance
- Exceptional spectral & spatial resolution
- Accurate, consistent spectral measurement
- Compact with very wide field of view
- Low scatter or stray light
- Rugged design for durability & stability
- Cost effective deployment
- High Signal-to-Noise
- Exceptional bandshape & resolution
- Requires shorter exposure time

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

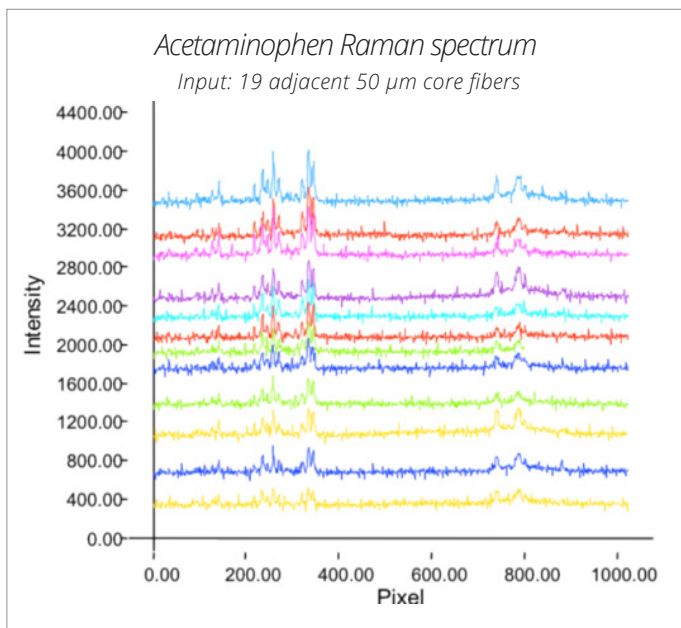
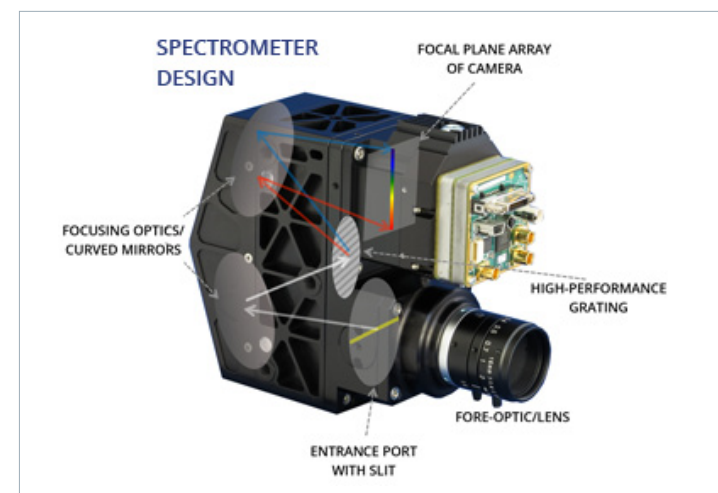
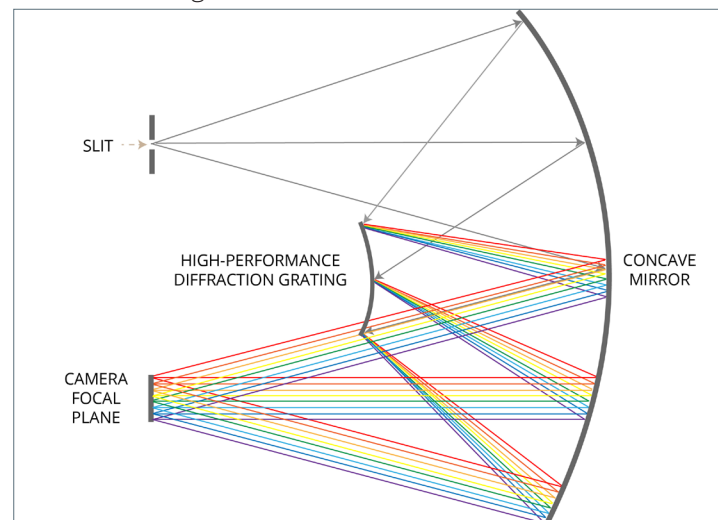
Raman Explorer™ 830 nm

Raman Explorer™ 1064 nm

Raman Discovery™ 532 nm

Raman Discovery™ 785 nm

In addition to Raman, Headwall is the world's leading producer of hyperspectral imaging spectrometers for a wide range of remote-sensing, laboratory, and in-line inspection applications. An all-reflective concentric optical design based on Headwall's original diffractive gratings delivers aberration-corrected imaging performance featuring high spatial and spectral resolution, a wide field of view, and high SNR.



UV-VIS (250-825nm)
VNIR (380-1000nm)
Extended VNIR (550-1700nm)
NIR (900-1700nm)
SWIR (950-2500nm)
MWIR (3,000-5,000nm)
LWIR (8,000-12,000nm)

About Headwall Photonics: Headwall 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 advanced, patented optics technology, Headwall enjoys a market-leading position through the design and manufacture of spectral instrumentation that is customized for application-specific performance.

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