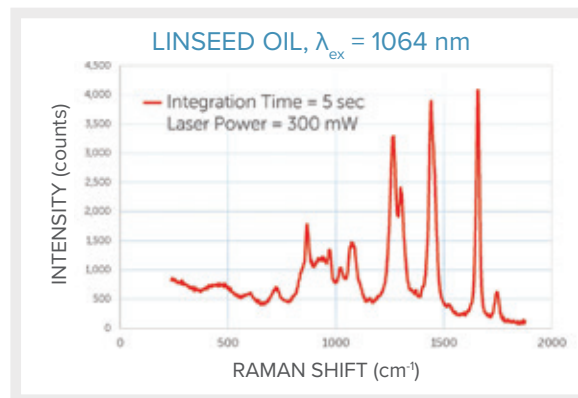
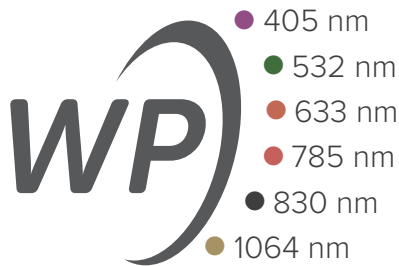


RAMAN SPECTROSCOPY

See more, faster than ever before

At Wasatch Photonics we design the kind of Raman spectroscopy products we want to use. As spectroscopists ourselves, we understand the difference that high sensitivity, low noise, and the ability to capture spectra quickly can make to a research project or OEM product design. With a superior optical bench, more configuration options, and greater spectroscopy expertise than you'll find anywhere else, we will help you see more, faster than ever before.



Our WP 1064 Raman spectrometer leads the market for low noise and short integration time.

ADVANTAGES

- Low f/#, highly efficient optical design
- Patented in-house grating technology
- High sensitivity to capture weak signals
- Superior limit of detection and speed
- Multiple detector cooling options
- Modular and integrated solutions
- Compact, robust and configurable
- Excellent thermal stability

APPLICATIONS

- Trace level material identification
- SERS and taggant detection
- Industrial process control
- Gemstone, mineral, & art analysis
- Graphene & nanomaterials characterization
- Pharmaceutical inspection & ID
- Anti-counterfeit & authentication
- Food & beverage



COLLECT MORE LIGHT. KEEP MORE LIGHT. DETECT MORE LIGHT.

This may sound simple, but it's the driving force behind all we do – because it makes for good spectroscopy. Starting with the patented and proprietary volume phase holographic (VPH) grating technology on which the company was founded, we've designed a spectrometer that maximizes efficiency at every step. By keeping more light in the optical path, we reduce stray light within the bench, thus increasing signal while reducing noise.

HERE'S WHAT THIS MEANS FOR YOU:

Higher sensitivity

- ▶ Capture brief phenomena, even at low light levels
- ▶ Minimize laser exposure for delicate samples
- ▶ Significantly reduce your measurement time

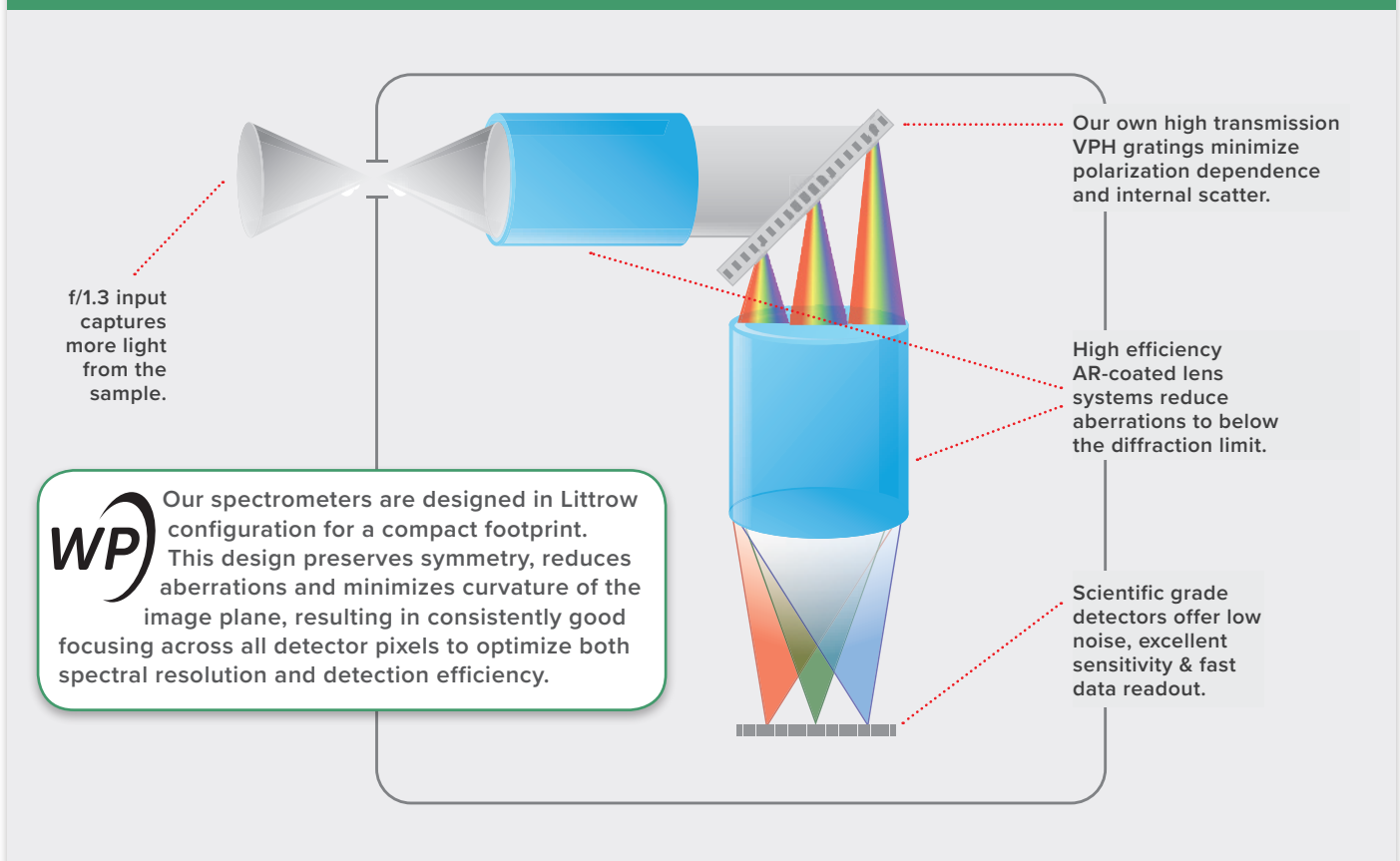
Faster acquisition rates

- ▶ Better spatial resolution in 2D scanning applications
- ▶ Ideal for rapid process monitoring, product scanning
- ▶ Allows increased averaging to maximize SNR

Lower limit of detection

- ▶ Detect illicit materials at trace levels in surface residues
- ▶ Identify banned substances & contaminants on or in foods
- ▶ Develop quantitative models down to low concentration

THE WASATCH ADVANTAGE



WASATCH PHOTONICS OFFERS YOU MORE

We believe you should have full control and maximum flexibility when designing a Raman spectroscopy system. That's why we offer so many build-to-print options for range, resolution, detector cooling, and sample coupling – backing each with our advice and experience. Start with the excitation wavelength best suited to your sample, then create the system best suited to your needs.



DETECTOR COOLING OPTIONS

Ambient: $T_{\text{detector}} \approx 25^{\circ}\text{C}$

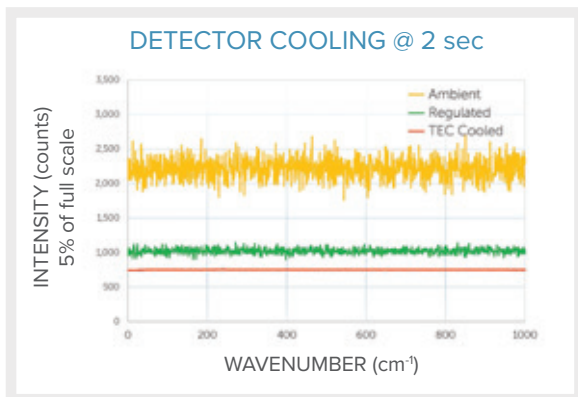
- ▶ Most cost effective option
- ▶ Good SNR high throughput detector
- ▶ Best for teaching and lab environments

Regulated: $T_{\text{detector}} = 10^{\circ}\text{C}$

- ▶ Fixed dark noise (better spectral reproducibility)
- ▶ Improved SNR compared to ambient detector
- ▶ Great for variable environments & handheld use

TEC cooled: $T_{\text{detector}} = -15^{\circ}\text{C}$

- ▶ Lowest dark noise option – highly consistent
- ▶ Best SNR for lowest limits of detection
- ▶ Ideal for long integration time measurements



SAMPLE COUPLING OPTIONS

Fiber coupled spectrometer with probe

Our f/1.3 design delivers superior signal and ultra low background when used with our matched NA probes. Simplifies sample alignment in the lab or field.



Free-space coupling to spectrometer

This 0.36 NA input offers superior signal and freedom in the design of your own sampling optics, from spot size to working distance. Ideal for research and OEMs.



Integrated laser & free-space coupling

Our compact design integrates laser control and optimized coupling optics for best signal to noise. For turnkey lab use and OEM integration.



Powerful, flexible Raman solutions

Quickly design an optimized Raman system for your application using our plug & play components. Need help choosing the right wavelength or options for your sample? Contact us for advice or testing.

BUILD-TO-PRINT SPECTROMETERS

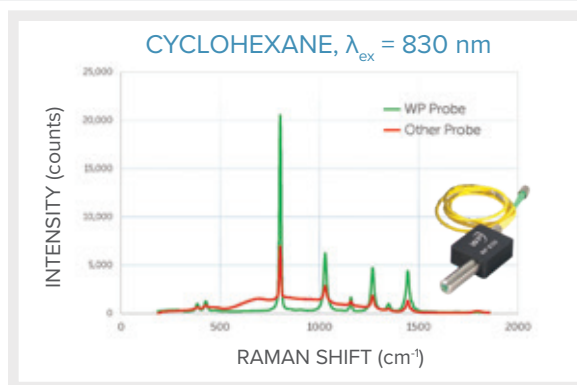


We offer more options for excitation wavelength, range, detector cooling, and sample coupling than anywhere else. Our f/1.3 design offers high throughput and SNR for fast, high-quality spectra.

RAMAN LASERS

Our off-the-shelf and integrated lasers offer high wavelength & power stability for the cleanest, most reproducible Raman spectra.

RAMAN PROBES

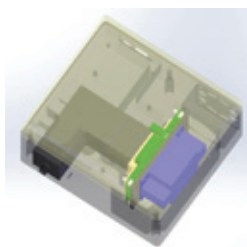


We've designed our own compact, flexible fiber optic probes to be perfectly matched to our f/1.3 spectrometers. Maximize your sensitivity & SNR and reduce your data acquisition times.

ENLIGHTEN™ SOFTWARE

We've simplified the process of acquiring Raman spectra with our intuitive new interface for desktop, laptop or mobile – provided at no charge.

OEM DEVELOPMENT & SUPPORT



When you're designing a new product, you don't just need a partner, you need a collaborator - one that understands spectroscopy & system design just as well as they understand manufacturing. At Wasatch Photonics, we apply our core strength as innovators to further your product designs and our expertise as scientists to troubleshoot problems along the way. From concept to solution to volume, we can give you more.