



# NIRQuest+ NIR Spectrometers



## High-sensitivity Near Infrared Analysis

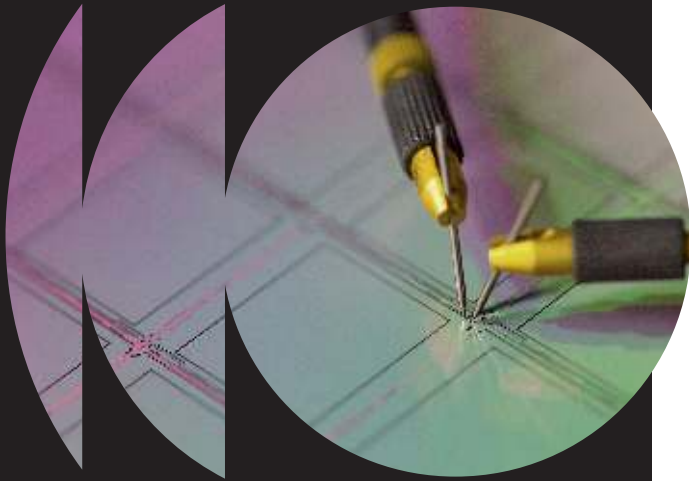
NIRQuest+ spectrometers have an enhanced optical bench design for higher-sensitivity performance and are available in three convenient configurations – NIRQuest+1.7 (900-1700 nm), NIRQuest+2.2 (900-2200 nm) and NIRQuest+2.5 (900-2500 nm). The NIRQuest+ is our flagship NIR spectrometer.

NIRQuest+ spectrometers can be used in the lab or on the line, such as on a conveyor belt or in a sample stream. Applications include characterization of materials; identification of plastics in recycling; and measurement of chemical concentration of liquids.

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## At a Glance

**NIRQuest+1.7:** 900-1700 nm

**NIRQuest+2.2:** 900-2200 nm

**NIRQuest+2.5:** 900-2500 nm

**Entrance aperture (slit):** 25  $\mu\text{m}$

**Order-sorting:** OF1-RG830 longpass filter;  
transmits  $>830$  nm

**Thermal stability:** thermoelectric cooling to  
 $-20$  °C for low dark current

**Optical resolution:**  $\sim 3.4$ - $10.8$  nm (FWHM)  
depending on model

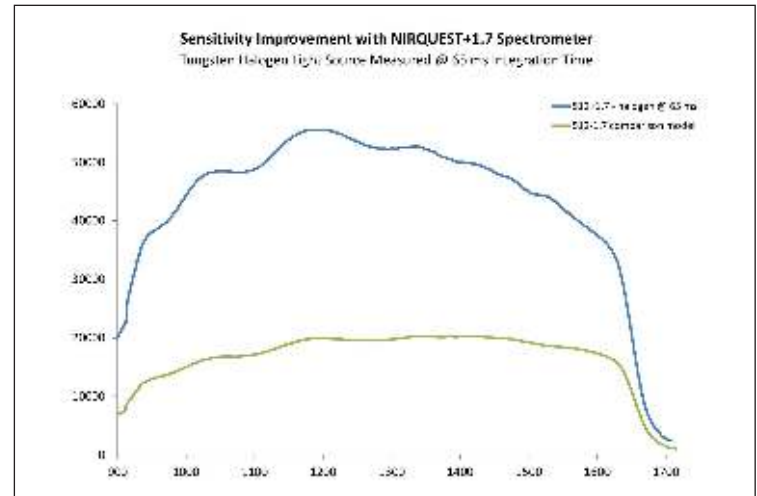
**Relative sensitivity gain:** up to 2.5x versus  
previous models

**SNR:** up to 13000:1 depending on model

**Integration time:** 1 ms-200 ms

## Sample Spectra for NIRQuest+1.7 Spectrometer

With improved sensitivity compared with earlier NIR spectrometer models, the NIRQuest+ family offers lower limits of detection and allows for shorter integration times.



## Sample NIRQuest+ Applications

Here are three examples where enhanced NIRQuest+ sensitivity matters most:

- **When measurement speed matters.** With better sensitivity comes better signal-to-noise ratio (SNR) performance over a shorter time frame (integration time). This is ideal when you have samples moving on a conveyor belt, or liquids flowing in a process stream.
- **Where low limits of detection (LOD) matter.** Very small changes in absorbed signal are typical of harmonic overtones in the NIR. Higher sensitivity enables better measurement accuracy, particularly in low light conditions.
- **When reflection measurements at longer wavelengths matter.** Diffuse reflection measurements at longer wavelengths (to 2500 nm) often lack enough signal for good measurements. Higher sensitivity measures the reflection with much lower noise levels, resulting in "cleaner" spectra.

**For more information on the NIRQuest+, please contact an Ocean Insight Application Scientist today.**