



# Flame-NIR+ Spectrometer



## Compact, High-sensitivity NIR Spectrometer

The Flame-NIR+ combines a compact, high-performance optical bench with an uncooled InGaAs array detector for spectral response from 970-1700 nm. The Flame-NIR+ has better sensitivity and a wider spectral range than comparable spectrometers. This allows users to detect weaker levels of NIR light at lower limits of detection and with shorter integration times.

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## At a Glance

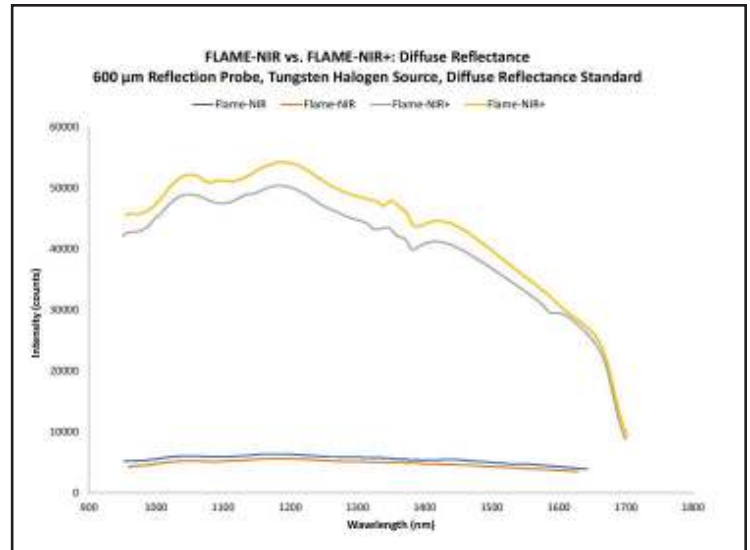
- Wavelength range:** 970-1700 nm
- Resolution:** ~10.0 nm (FWHM, 25 µm slit)
- SNR:** 6000:1 (single acquisition)
- Dynamic range:** 6000:1 (single acquisition)
- Thermal stability:** 0.08 nm/° C (over 670 nm range)
- Scan rate (maximum):** ~400 Hz\*
- Power:** 5V USB
- Size:** 89.1 mm x 63.3 mm x 31.9 mm
- Weight:** 265 g

\*When used with a standard, non-real time computer OS.



# Versatile, Affordable NIR for Food, Pharma and More

Flame-NIR+ offers enhanced sensitivity from 970-1700 nm, and is ideal for identifying and characterizing various samples.



Raw reflectance spectra of PTFE show increased sensitivity with Flame-NIR+.

Food & Agriculture	<ul style="list-style-type: none"> <li>Freshness and sweetness of fruits and vegetables</li> <li>Fat and protein content of meat</li> <li>Quality parameters of seeds and grains</li> </ul>
Life Sciences & Pharmaceuticals	<ul style="list-style-type: none"> <li>Identification of pharmaceutical ingredients</li> <li>Portable diagnostics for blood glucose and blood flow</li> </ul>
Chemical & Commodity Manufacturing	<ul style="list-style-type: none"> <li>Chemometric modeling for QC in hydrocarbons extraction and processing</li> <li>Identification of various types and colors of plastics in recycling</li> </ul>

## Flame-NIR+ Features and Benefits

Features	Benefits
<b>Small yet rugged design</b>	Its small size – just 89.1 mm x 63.3 mm x 31.9 mm – makes Flame-NIR+ ideal for integrating into portable and handheld systems. With no moving parts, the spectrometer holds up well in demanding environments.
<b>High sensitivity</b>	Flame-NIR+ has up to 6x increased sensitivity compared with earlier models, offering lower limits of detection and allowing for shorter integration times.
<b>Low unit to unit variability</b>	Precision alignment and assembly techniques have reduced unit to unit variance in almost every aspect, including uncalibrated sensitivity.
<b>Low power</b>	Drawing <250 mA at 5V, Flame-NIR+ can be powered almost anywhere – and integrated into other devices and industrial process control environments.