



# Ocean HR2 Spectrometer

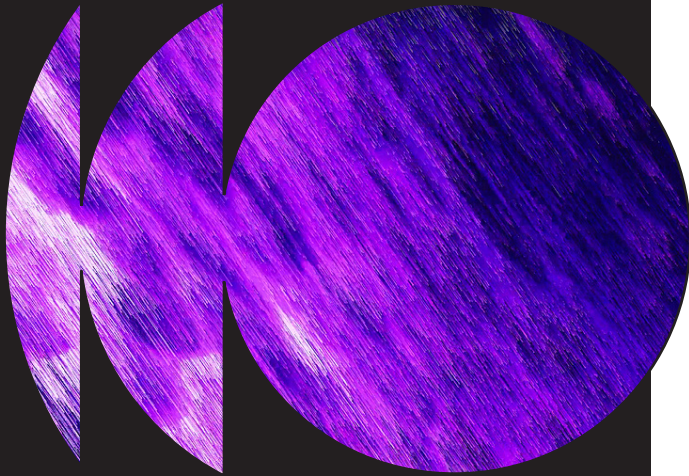


## Rapid Acquisition Speed and High Thermal Stability

The Ocean HR2 spectrometer provides rapid acquisition speed and excellent thermal stability for applications ranging from plasma monitoring to pharmaceuticals analysis. Ocean HR2 is compact and robust, with integration times as fast as 1  $\mu$ s and thermal wavelength drift of just 0.06 pixels/ $^{\circ}$  C, helping to ensure reliable spectral performance even as environmental conditions change. Ocean HR2 models cover various wavelength ranges within ~190-1150 nm, with a choice of slit width sizes to help users manage throughput and optical resolution.

**APPLIED  
SPECTRAL  
KNOWLEDGE**

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## At a Glance

**Detector:** 2098-pixel CCD array

**Dimensions:** 150 mm (l) x 107 mm (w) x 48 mm (h)

**Weight:** 930.6 g

**Wavelength range:** Multiple options within ~190-1150 nm

**Optical resolution (w/25  $\mu\text{m}$  slit):** <1.0 nm (FWHM) (depending on configuration)

**Signal-to-noise ratio:** 380:1 (single scan @ 10 ms)

**Dynamic range:** 2.46 E8 (system)

**Integration time (min.):** 1  $\mu\text{s}$

**Scan rate:** 400 Hz (non-buffered)

**Thermal stability:** 0.06 pixels/ $^{\circ}\text{C}$

**A/D resolution:** 16-bit

**Interfaces:** GPIO-4; power (5VDC); Lamp-enabled; Single and Continuous Strobe

## Ocean HR2 is a High Resolution Instrument

The Ocean HR2 spectrometer is compatible with Ocean Insight light sources, accessories and software, allowing users to optimize setups for different applications. Its rugged design, thermal stability and excellent absorbance linearity make Ocean HR2 viable for lab use, embedding into OEM instrumentation, and integrating into process setups.

Small-footprint HR2 spectrometers are especially useful for optical emission spectroscopy applications in semiconductor environments, where spectral stability (0.06 pixels/ $^{\circ}\text{C}$  thermal wavelength drift) helps to ensure precise control of wafer processes. HR2 is also a viable option for applications including blood analysis and protein concentration, where the spectrometer's absorbance linearity (2 AU) enables quantification over a broad range of protein concentrations using a single standard curve.

## Software Developers Kit Adds Value

Each Ocean HR2 spectrometer comes with OceanDirect, a powerful, cross-platform Software Developers Kit with an Application Programming Interface. OceanDirect provides users with the ability to optimize spectrometer performance, access critical data for analysis, and enable High Speed Averaging Mode, a function available with newer-model Ocean Insight spectrometers that dramatically improves spectrometer signal to noise ratio performance.

***For more information on the Ocean HR2, please contact an Ocean Insight Application Scientist today.***